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A N N U A L R E P O R T

July 1, 1975 - June 30, 1976

BOYD G. STEPHENS, M.D.
Chief Medical Examiner-Coroner
7th and Bryant Streets
San Francisco, California 94103

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OFFICE OF THE
CHIEF MEDICAL EXAMINER - CORONER
CITY & COUNTY OF SAN FRANCISCO

TELEPHONE
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HALL OF JUSTICE
SEVENTH & BRYANT ST.
SAN FRANCISCO, CALIF. 94103

September 15, 1976

Honorable Mayor Moscone and Board of Supervisors
City and County of San Francisco
City Hall - Civic Center
San Francisco, California 94102

His Honor, The Mayor and Honorable Supervisors:

Although the resident population of San Francisco is declining, the socio-economic change, as well as, many other factors is resulting in the increased incidence of criminal deaths, or suspicious deaths in this community. The judicial process is rightly requiring more detailed investigation and reports for their use. Training requirements for law enforcement and medical personnel is increasing. The numbers of drugs and industrial compounds is always increasing. Each of these factors in our changing world works to maintain and increase the work load in this office.

The public concept of death, its fears and misconceptions are changing slowly. However, most people do not understand what we do and would really not wish to find out-until they have a family tragedy which we have to answer to the courts or the family as to the cause and manner of death. Only at that time do they begin to realize our function and impact on the state of the community.

The operating policy of the office is changing slightly, because we do not control salaries or hiring policy. We need several more full time specialists to improve our capabilities. Because of the complexities involved, our instrumentation requires improvement. Our people need training and equipment to do their jobs well. These goals can be achieved with the continued support of county government.

A potential plan to improve department revenues has been discussed and is being prepared. Obviously, costs to the taxpayer must be kept low, but in much of our work, to do an incomplete investigation costs the taxpayer more in the long run and is false economy. This department will always be largely dependent on tax revenues. It is possible to increase county revenues.

Over the last few years we have made some procedural and administrative changes to improve both the function of the office and cost accounting. In our governmental program of responsibility without authority, however, it is difficult to realistically make the sweeping changes that are sometimes needed. Cost accounting is difficult, since we relate to so many other departments. Several years ago, we estimated that the cost to the county of a day in superior court on a major criminal case was approximately \$6,000 per day. If the work this department does on any one case saves the prosecution and defense one to three days, there is an obvious considerable savings to the taxpayer, but one that is not always possible to directly relate to this department. The converse is also true. These factors, however, directly relate to cost savings for the county.

His Honor, The Mayor and Honorable Supervisors

We can-not eliminate any of the duties of this department because most of them are state or county mandates. There are several, however, that we are forced to share without being funded for them, i.e. testifying on alcohols done by the county lab.

Functional break-down of departmental activities

The functions of this department are tightly interwoven. No one section can function independent of another, and in most cases requires a "product" from another in order to perform its task. However, there are several basic functions that can be separated. These are:

- Investigative
- Administrative
- Forensic Pathology
- Inquest
- Judicial

In order to understand each of these functions, a brief explanation is required.

Investigative-This division consists of 10 deputy coroner's (Coroner's Investigators) who work 8 hour shifts covering 24 hours/day, 7 days per week. They make the original determination whether the case falls under the jurisdiction of the office based on state law. This frequently requires scene investigation, evaluation of injuries, search for evidence and for the next of kin. Because of the importance and the emotional impact involved, this is not an easy job. In some cases the body is damaged, yet the deputy must still be thorough in his work, least he miss a homicide or public hazard. It requires close association with other public agencies.

There is no "product" per se of the deputies' investigation that can be accurately counted that truly reflects the work involved. However, during the last fiscal year, the deputies investigated 2,243 cases, prepared written reports for use of others, notified police, relatives and others, as well as, doing the scene investigation. They took a total of 3,800 reports of death, but after some level of investigation released 1,557 cases for the physicians signature on the death certificate.

Administrative-This section is involved with the day to day functions of the office, preparation of the typed report of the forensic investigation as part of our official records, estate investigation, work with relatives and next-of-kin, and interfacing with other branches of public government. They are responsible for the sale of public records and public auction. It is impossible to give realistic production numbers to reflect their work-load. Even in estimating families served the number is invalid, since one family may be contacted only once, while another is seen multiple times. They are involved, however, in every case entering the office, as well as, some that do not fall under our jurisdiction.

Forensic Pathology-This division is involved in scene investigation, the medical-legal autopsy, pathology and toxicology. One investigation may require half an hour, while another takes days or weeks. Every case taken by this office is autopsied. Some are easy cases to determine the cause and manner of death. With increasing frequency, however, they are more and more difficult. It is of utmost importance to the prosecution

His Honor, The Mayor and Honorable Supervisors.

and defense to know the type of weapon, time of death, or levels of drugs in a body. This is where that data is determined if it is possible to do so.

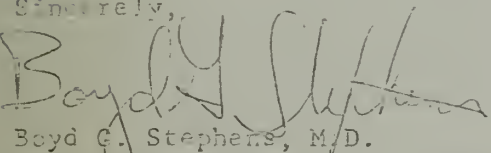
Inquest-An inquest is a formal hearing into the death. The Coroner or Medical Examiner has the power of subpoena and the responsibility to question witnesses to determine the facts of a case. Although not generally recognized by the public, these are important for many reasons. Last year, there were 99 inquests held by this department.

Judicial-Presentation of expert testimony to the courts, preparation with the attorneys, and preparation for court presentation is given by this department in over 300 cases. There is no additional cost to the county for this expert testimony, and none for the preparation. This is producing a problem for the department since there is no budget for film, etc., and the increasing court load effectively removes that expert from other work for the duration of the testimony. For example, when the toxicologist testifies, we lose half a day or more on toxicology reports.

Research-The research section is responsible for developing and performing work designed to improve our understanding of disease process, drug interactions, environmental poison or pollution levels, and improvement of medical treatment capabilities. It is designed to be self supportive on the basis of grant monies. Since we are the only agency to have the material, we have a responsibility to use that material in the manner legally possible in order to improve this and other communities.

We wish that our job was not necessary, but it is. Furthermore, its value to the community is directly related to the quality of forensic work done. With this annual report, the office completes one segment of its work and looks forward to helping our community with the next case.

Sincerely,



Boyd G. Stephens, M.D.
Chief Medical Examiner-Coroner

WFG:mn

Out Of Money, Burn Body

OKANOGAN, Wash. (UPI) — A prosecutor says he ordered the cremation of an unidentified murder victim because his budget was too small.

"We just have to pick and choose those bodies on which we think the money will be best spent," Jerry McCormick, Okanogan County's prosecutor and coroner, said during the weekend.

McCormick, with no background in pathology, said the cause of death in the case obviously was drowning.

The body of the young man was found Thursday in the Okanogan River. A 25-pound rock was used to weigh it down. The man's hands and feet were bound behind his back with rope.

McCormick said he had used up his \$1,200 autopsy budget and had disposed of another body several months ago without an autopsy.

Positive identification can be achieved with dental x-rays, but they were never made.

"We asked him for dental x-rays. That is his responsibility as coroner," Sheriff Jerry Beck said. He added he did not know for sure the man drowned.

"We have to rely on medical and technical expertise to determine those things," he said.

McCormick said he ordered the body destroyed because it had a bad odor.

(From San Francisco Newspaper)

Fortunately, this is not the situation in San Francisco. How we differ should be evident by looking through the associated report. Suffice it to say that we try to do a complete and thorough examination on every case brought into the office.

Most people only know that we handle dead bodies. Many think that we merely pick them up, and that the police or fire department identify the person and determine how they died. In fact, in some communities, that is partly true. Here, however, we operate as a separate office, directly under the jurisdiction of the Chief Administrative Officer. We are responsible both locally and locally under California State Law for the identification of cause and manner of death, as well as, who died, where and if possible contacting the next of kin.

Sudden, unexpected or traumatic deaths are expensive to the taxpayers. Besides the frequently needless loss of life, the investigation and judicial process costs are considerable. Our estimate of \$6,000 per case for a single case may be related to the fact that if data is unclear or incompletely prepared, hours and days may be spent while attorneys argue the case, rather than the facts. Therefore, we feel the proper training and investigative studies is sound financial management, as well as important to the proper outcome of the case.

William H. H. H.

Until the pathologist has determined that death was caused by homicide or indirectly by some kind of violence or culpable negligence, there is no homicide to investigate... If he mis-diagnoses a non-existent homicide, he may place an innocent person in jeopardy... Conversely, if he fails to place the weight to the fact that a homicide was committed, the justice system is compromised.

(Journal of the American Academy of Forensic Sciences, 1974, Charles C. Thomas Co., Feb.)

Presenting the medical data as an expert witness is not always a simple affair. The victim may be badly damaged or in some other way be aesthetically unpleasant to examine. If, however, the innocent and the guilty are to be clearly separated, then the wounds, natural disease and artifacts must be clearly defined or described so that the jury can try the facts of the case. No one's liberty should be taken, nor should the guilty be set free because the scene, victim or scientific information was not collected and completely interpreted, or even lost through ignorance.

The forensic scientist does not work alone. He or she depends on close association with police, public health, research scientist and judicial specialist. This chain of responsibility, if it is to serve justice, must have every link strong and unbreakable. A criminal charge should be based on facts, and the medical-legal aspects of the case must be accurately and unbiasedly prepared and interpreted for the courts.

Since this office is responsible for determining the cause and manner of all deaths other than natural, our investigation must be as complete and accurate as possible. It must be rapid but exacting. A determination of death by suicide, homicide or accident must be supportable beyond a reasonable doubt. Such decisions have far reaching ramifications.

A city like San Francisco should have a really "top-notch" Medical Examiner's Office. To do so improves and benefits the living in many ways directly, and in many more by indirect or sometimes intangible means.

DEPARTMENTAL COSTS

The costs to the taxpayer for operating this department around the clock are indicated below. Except as indicated, the total budget allocated to this department is simply divided by the number of cases investigated.

1975-76

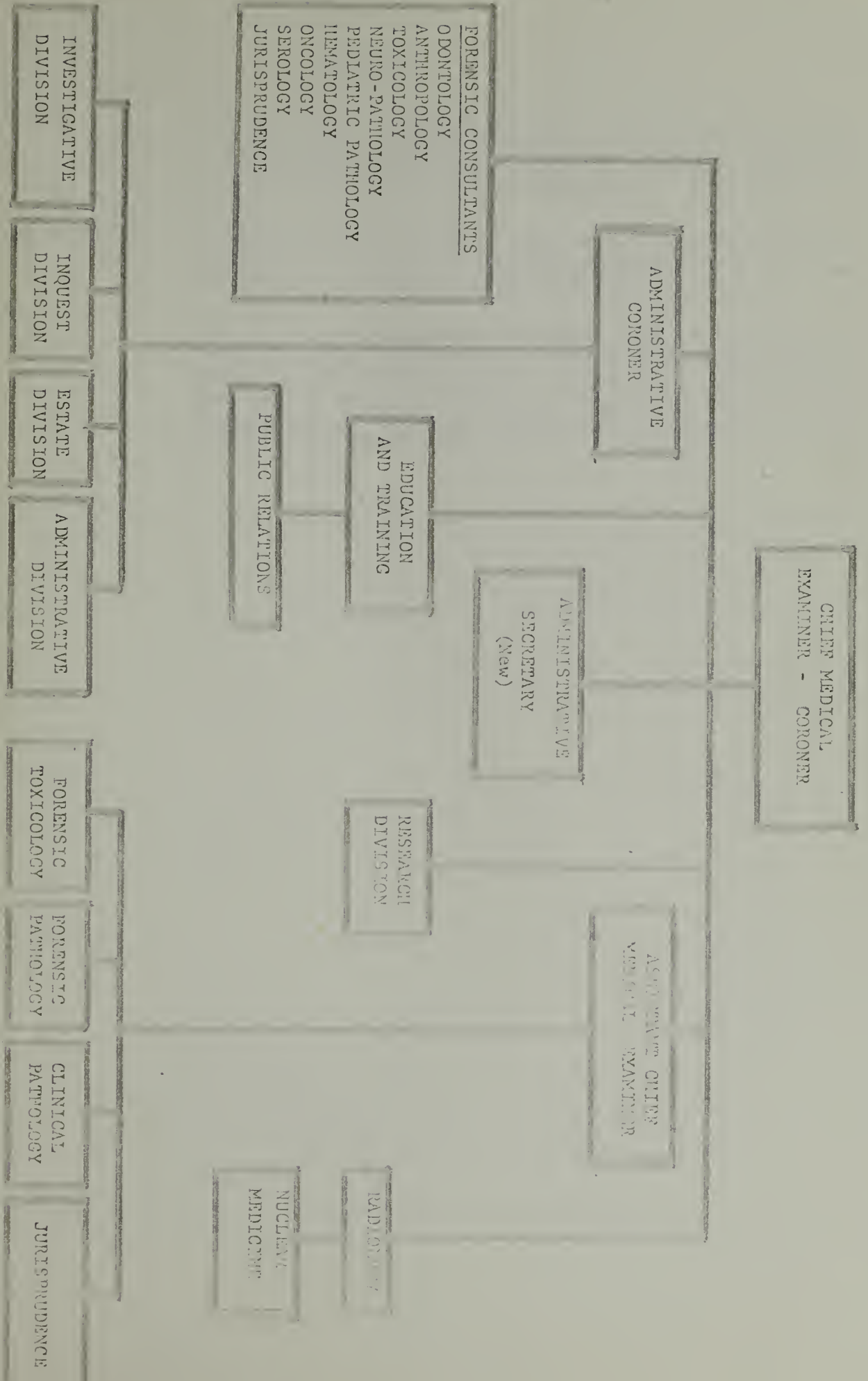
Total Budget	\$652,487.00
Transfers to the Controller, Health and Retirement	109,236.00
Net Budget (all other costs)	543,251.00
Total cases	3,700

Costs per case investigated	146.82
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Revenues (Sales of records, Public auctions)	12,241.32
---	-----------

<u>Total costs Ad Valorem Tax per Case Investigated</u>	<u>143.52</u>
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As indicated elsewhere, this includes all investigative, administrative, scientific and expert witness costs to the County.



GLOSSARY

TOXICOLOGY

The scientific study of poisons, their detection, actions and treatment. The relations of drug levels to emotional or personality change, behavioral or reasoning ability, are frequent decisions based on this data.

MEDICAL EXAMINER

A physician specifically trained in forensic pathology who is responsible for investigating and determining the cause and manner of sudden or unexpected death.

AUTOPSY

A scientific dissection of the human body to determine the cause and nature of death. To detect public health hazards, determine the method or type of death in homicides and improve the level of medical care in the community. In some cases, showing that no injury or wrongdoing was present is of great emotional and stabilizing value to the family.

GLOSSARY

ALKALOID OF MORPHINE GROUP	Typically referred to as morphine type alkaloid, this is the chemical substance found in body fluids after the injection of heroin, or other drugs derived from opium.
TOXICOLOGY NOT VALID OR ELIMINATED	This term indicates that the deceased lived long enough after the injury to have eliminated some or all toxic agents from the body.
FORENSIC PATHOLOGY	The speciality field of medicine involving the application of medical and pathology principals in determining the cause and manner of sudden, unexpected, and medically unattended deaths. This includes the type and nature of injury, public health hazard, type or nature of homicide weapon, the relation of injury to death and interpreting other factors for the courts. These data are prepared and presented to the judicial system or for public health interests in keeping with the best available knowledge.
MODE OF DEATH	Indicates the manner of death, such as natural, accident, suicide or homicide, and is to be distinguished from cause of death which is purely a medical determination.
MODE EQUIVOCAL	With the cause of death determined, investigative data does not clearly differentiate between two modes of death, although some evidence supports either one.
MODE UNDETERMINED	With the cause of death determined, investigative data does not clearly support one of two possible modes, and either one is possible without prejudice.
MODE UNKNOWN	Circumstances insufficient to indicate between two possible modes, as when only bones are found, or when no medical cause of death is determined.
MULTIPLE VEHICLE	More than one passenger vehicle involved.
NON-TRAFFIC	Accident occurred off the street in driveway, garage, etc.
PATHOLOGY	That branch of medicine which deals with the essential natural of disease, especially in the structural or functional changes in tissues, organs or systems of the body causing disease. It involves the diagnosis of disease by microscopic or chemical analysis.
SEROLOGY	That branch of pathology that deals with the analysis of blood and body fluids. Blood types for identification, exclusion of a suspect or judicial purposes are examples of the use in this office.
SINGLE VEHICLE	Vehicle struck pole, wall, divider, etc. without the influence of another vehicle.

FISCAL YEAR 1975-76

Total deaths in County			8,695
Total deaths reported to Coroner			3,800
Cases reported, investigated and cleared by the Coroner for physician's signature			1,557
Coroner's Cases			2,243
Percent of all deaths in San Francisco County reported to Coroner			43.7%
Percent of all County deaths having Coroner's autopsies			25.8%
Cases accepted by Coroner			2,243
1. Natural deaths	1,358	60.5%	
2. Accidents	468		
3. Suicides	195		
4. Homicides	152		
5. Mode equivocal	22		
6. Cause unknown	9		
7. Cause undetermined	39		
Autopsies performed			2,243
Autopsy Index			100%
Burials authorized by Coroner			
1. Indigents and fetuses buried by City	137		
2. Veterans buried by funeral homes on rotation basis	35		
3. Cases buried by funeral homes on rotation bases with Public Administrator con- trolled funds	29		
Inquests			
1. Inquests held or deposition taken			99
Identification			
1. Persons brought to Coroner's Office with insufficient identification			272
2. Persons subsequently identified by fingerprints, dental x-ray or other means			263
3. Persons buried as unidentified			9
4. Fingerprints taken and forwarded to F.B.I., C.I.I., or S.F.P.D.			2,171

MODE OF DEATH - YEARLY COMPARISON

	65-66	66-67	67-68	68-69	69-70	70-71	71-72	72-73	73-74	74-75	75-76
ACCIDENTS											
Motor Vehicle	114	99	102	129	112	105	113	122	82	89	105
Non-Vehicular	245	244	256	286	365	370	352	319	256	349	363
SUICIDES	233	234	237	246	281	263	206	227	220	224	195
HOMICIDES	59	79	83	141	129	107	110	94	137	126	152*

*Includes 12 cases from
Gartland Apartments

NOTOR VEHICLE ACCIDENT

	JULY	AUG.	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	TOTAL
	7	8	6	16	12	13	10	7	8	8	2	8	105

Alcohol present	17	Driver	44
Barbs	0	Passenger	15
TV	54	Pedestrian	40
Non-Motor Vehicle	4		

INDUSTRIAL ACCIDENTS

75 - 76

Total number of Industrial Accidents..... 11

MEANS

Asphyxiation.....	0
Burns.....	4
Crushing.....	2
Struck by object.....	3
Falls.....	0
Miscellaneous.....	2

SEX

Male.....	11	Female.....	0
Alcohol positive.....	0		
Alcohol negative.....	0		
Test not valid.....	3		
Other drugs.....	0		

.....

ACCIDENTS AT HOME

	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	TOTAL
Number	18	12	15	11	24	23	18	18	16	20	19	16	210
Male	12	7	10	4	15	12	8	12	11	16	8	7	122
Female	6	5	5	7	9	11	10	6	5	4	11	9	88
Food Bolus	0	0	0	0	0	1	0	0	1	1	0	1	4
Aspiration	1	1	1	0	0	1	0	1	0	1	1	0	7
Other	1	1	2	0	1	0	0	0	0	0	0	1	6
Burns in San Francisco	4	2	2	3	3	1	4	3	1	4	2	2	29
Burns outside San Francisco	2	0	1	0	2	1	0	0	0	0	0	0	6
Gas/Carbon monoxide	0	1	0	0	0	0	1	0	2	0	0	2	6
Fall	4	6	6	1	4	7	5	4	7	4	7	5	60
Poison	6	1	3	7	14	12	8	10	5	10	9	5	90

VIOLENT DEATHS

There were 2243 cases brought to the Coroner's Office and autopsied. Of these cases, 885 were determined to be due to violence, or that other trauma was involved.

Mode	Total No.	% of Total Coroner's Cases	% of Total County Deaths (8695)
Accident	468	21%	5%
Motor Vehicle	105	5%	
At Home	210	9%	
Away from home	142	6%	
Industrial	11	0.5%	
Suicide	195	8.7%	2.2%
Homicide	152	6.7%	1.7%
		20.3/100,000 population	
Other violent deaths of mode equivocal or undetermined	70	3.1%	0.8%

ACCIDENTS AWAY FROM HOME

	1975						1976						TOTAL
	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	
Number/Mth	12	12	15	12	7	12	12	7	17	10	8	18	142
Male	8	7	10	9	3	8	8	5	13	9	4	15	99
Female	4	5	5	3	4	4	4	2	4	1	4	3	43
Alcohol	2	2	3	3	4	6	6	1	8	2	5	6	48
Tox not valid	2	5	4	1	1	6	1	2	2	5	2	4	35
Other drugs	1	1	1	0	1	0	3	1	2	1	1	2	14
Narcotics	4	3	3	4	1	0	4	3	9	2	3	7	43
Barbs	2	0	0	0	0	0	0	0	0	0	0	0	2
Food Bolus	0	1	0	0	2	1	0	0	0	1	2	0	7
Aspiration	0	0	1	1	1	3	0	1	1	0	0	0	8
Drowning	1	0	2	1	0	0	0	0	1	0	0	2	7
Handgun	0	0	0	1	0	0	0	0	0	0	0	0	1
Shoulder gun	0	0	0	0	0	0	0	0	0	0	0	0	0
Auto/Appliance C.O.	0	0	0	0	0	0	2	0	0	0	0	0	2
Burns /S.F.	0	0	0	1	0	2	0	1	0	0	0	2	6
Burns outside S.F.	1	0	0	0	0	0	0	0	0	0	0	0	1
Toxic Poison*	6	4	6	4	2	0	7	3	11	4	3	7	57
Fall	4	3	4	4	2	6	1	2	2	3	3	7	41
Other	0	4	0	0	0	0	2	0	0	0	0	0	6

*includes drug deaths

S U I C I D E

The determination of suicide as a manner of death represents the summation of scene investigation, including a review of psychological state, autopsy, pathology, toxicology and frequently, more investigation. To the best of our knowledge, this is the only office performing toxicology of multiple organs or body fluids routinely, in order to evaluate the metabolic status of a drug or drugs. This enables us to more accurately determine acute ingestion from chronic or potentiation effect by drugs. Realizing the immense emotional effect on a family, the diagnosis of suicide is never made lightly, and always represents a decision made on the basis of data sufficient, if necessary, to defend that decision in a court of law. Should these data be inconclusive, then the victim automatically gets the benefit of doubt.

Suicide takes a tremendous toll of our young people. The relative number jumping from the Golden Gate Bridge would not seem to warrant the publicity assigned them when compared to the need evident for help administered to individuals using other methods.

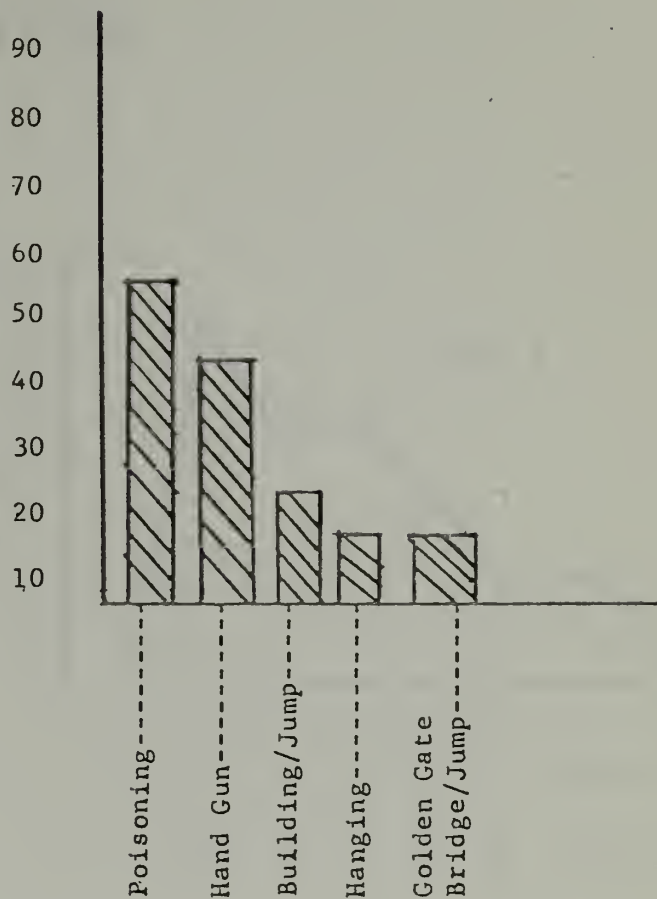
To help understand the problems, and hopefully aid in the reduction, this office has supported suicidiology, research and prevention programs for many years. It is hoped that this work will help reduce this needless loss.

The majority of these deaths are situational reactions, and given proper momentary trained support, are potentially preventable.

S U I C I D E S

TOTAL NUMBER 1975-76..... 195

METHOD	NUMBER 74-75	75-76
Poisoning	76	56
Golden Gate Bridge	14	19
S.F.-Oak.Bay Bridge	1	1
Auto-Carbon monoxide	6	3
Plastic Bag	3	7
Hanging	22	19
Cutting/Stabbing	2	5
Hand Gun	45	44
Shoulder Gun	6	10
Jump from Building	33	25
Drowning	7	3
Other	9	3
SEX	74-75	75-76
Male	149	134
Female	75	61
RACE		
Caucasian	191	178
Negro	17	12
Chinese	10	3
Japanese	4	1
Filipino	1	1
American Indian	1	0



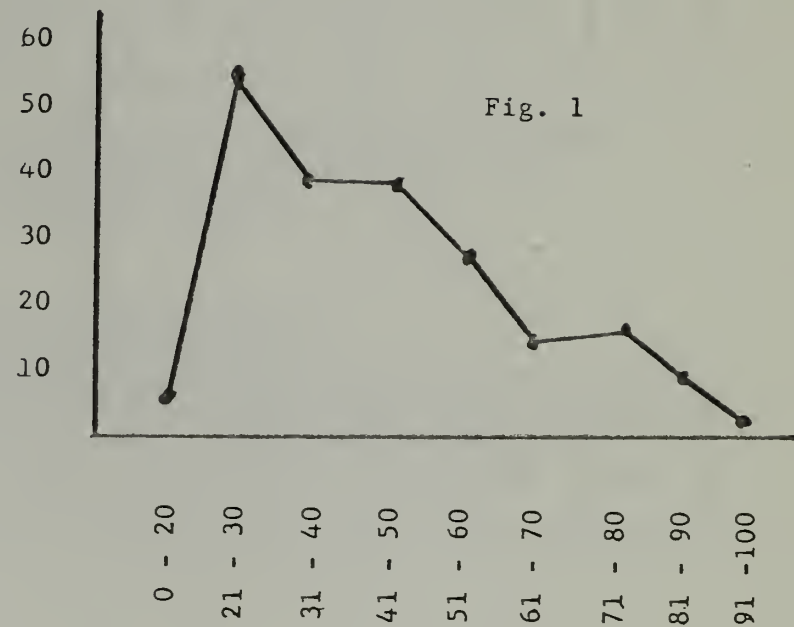
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Suicide by gunshot unlike homicide in this county, the weapon typically used was a shotgun, the handgun of good quality and relatively new. Most patients had discussed or, in retrospect, given indications of severe stress, but relatively few had sought help.

.....

S U I C I D E S
COMPARISON BY AGE

AGE	74-75	75-76
0 - 20	11	8
21 - 30	58	55
31 - 40	36	36
41 - 50	33	36
51 - 60	35	26
61 - 70	23	16
71 - 80	0	17
81 - 90	0	8
91 -100	0	1



Alcohol present..... 67 58

Other drugs..... 79 55*

*Decreasing number barbiturates
increasing morphine alkaloids

SUICIDES

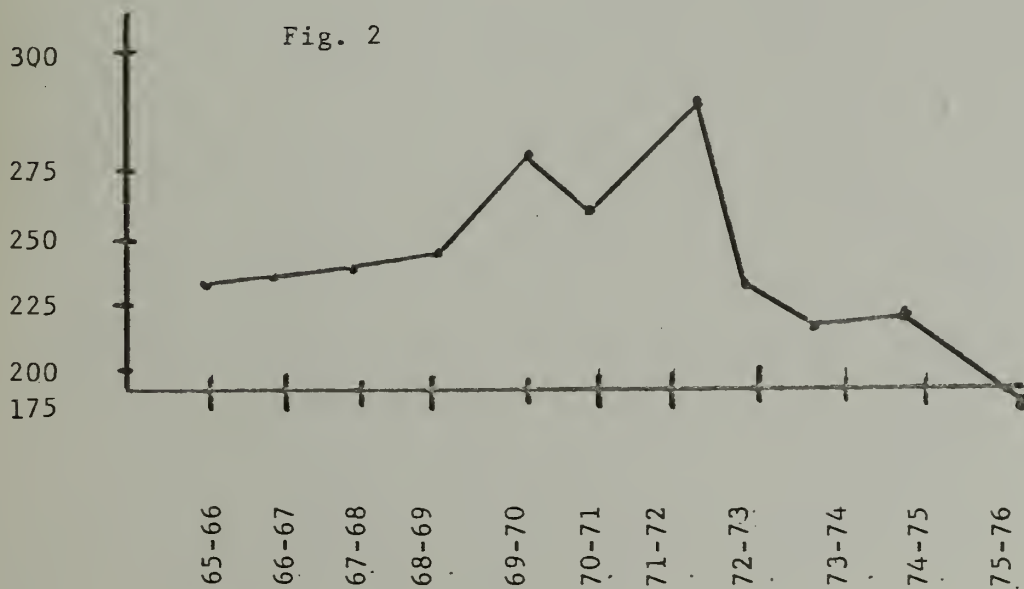
COMPARISON BY YEARS

METHOD	65-66	66-67	67-68	68-69	69-70	70-71	71-72	72-73	73-74	74-75	75-76
Poisoning**	84	87	106	102	114	75	74	69	51	76	56
Handguns	15	35	27	50	33	32	38	33	43	45	44
Golden Gate Bridge	16	9	23	10	14	20	28	16	21	14	19

**Predominant drug is barbiturate or barbiturate in combination with other compounds. In 1975-76, barbiturates are not as frequently used, while narcotics and other drugs are increasing in frequency.

COMPARISON TOTAL SUICIDES BY YEAR

65-66	66-67	67-68	68-69	69-70	70-71	71-72	72-73	73-74	74-75	75-76
233	234	237	246	281	263	296	227	220	224	195



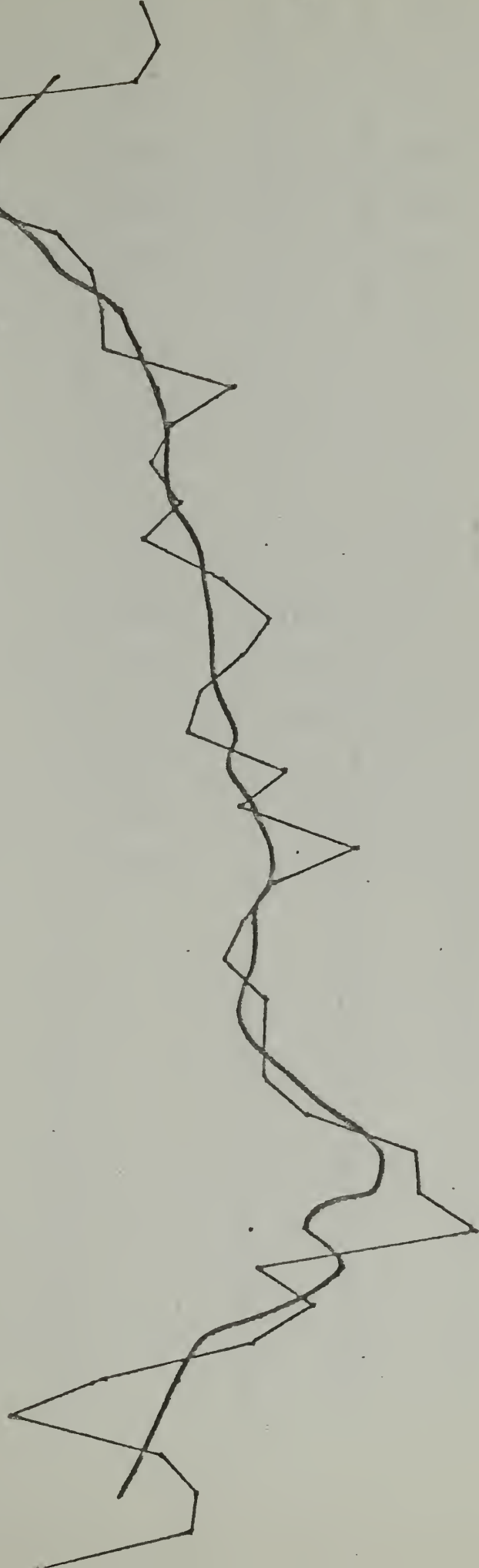
SUICIDE

The following chart represents the suicide rate for San Francisco since 1933-34. Trends and cyclic changes are sometimes difficult to predict, and even understand when they occur. So many factors effect the suicide rate, yet at times of great national stress, the rate may not change as predicted. Other data submitted with this report indicates the changing age population, as well as, the changing method of suicide. This is still predominately a disease of the young, although more older patients are evident lately. In many of the cases where the data is known, the temporary despondency may have been reversible if professional counsel were available. In other cases, the patient made the decision to take his life, and then took premeditated steps to complete his plans.

SAN FRANCISCO SUICIDE RATES, 1933-1975

BROKEN LINE = RAW DATA

CURVED LINE = TREND (5 YR. AVERAGES)



YEAR	HOM.	SUIC.	SUICIDE TREND	YEAR	HOM.	SUIC.	SUICIDE TREND
28-33	25	256	-----	59-60	34	202	204.2
33-34	43	248	=====	60-61	47	222	209
34-35	32	208	-----	61-62	44	212	214.2
35-36	22	206	226.6	62-63	43	220	213.6
36-37	30	215	221	63-64	44	215	215.8
37-38	24	256	217.6	64-65	55	199	220.2
38-39	26	220	211.6	65-66	59	233	223.6
39-40	23	191	206.6	66-67	79	234	229.8
40-41	29	176	182.2	67-68	74	237	246.2
41-42	25	191	168	68-69	127	246	252.2
42-43	34	133	179.8	69-70	118	281	264.6
43-44	29	149	160	70-71	101	263	262.6
44-45	31	150	159.8	71-72	102	296	257.4
45-46	35	178	170.8	72-73	90	227	246
47	45	189	183	73-74	131	220	
48-49	36	188	194	74-75	121	224	
49-50	34	210	196				
50-51	42	205	191.2				
51-52	31	188	192.8				
52-53	32	165	187.8				
53-54	46	196	188.8				
54-55	48	185	192.8				
55-56	50	210	199				
56-57	46	208	197.6				
57-58	27	196	201				
59	39	189	203.4				

HOMICIDE

Homicide is the killing of one human by another. The following data does not differentiate further into justifiable, accidental or murder. Murder is the unlawful killing of a human being with malice. Such distinctions are the proper function of the Judicial System, and are not the responsibility or function of this office.

The proper evaluation and investigation of a homicide begins, naturally, at the scene. Who determines if a death is a potential homicide? The answer is that in the majority of cases, a member of this office does (either the Coroner's Investigator, Administrative Coroner or Medical Examiner-Coroner). It has been well documented that if the determination is made by individuals inexperienced or untrained in death investigation, that their opinion will be wrong in over 50% of the cases. They are very apt to miss the subtle homicide, and are much more apt to miscall a natural or accidental death, resulting in false arrest, false accusations, needless expenditure of public funds, a waste of investigative time for many people, and a delay in investigation of other deaths.

The very first requirement of our Judicial System pertaining to criminal trial, requires the identification of an individual and the presentation of evidence, usually by virtue of expert forensic testimony, of the cause of death or trauma associated with the death. The entire remainder of the trial, frequently deals only with whether or not the accused caused those injuries, and answers the question of intent. Who identifies the body? The answer is that the Medical Examiner-Coroner's Office does (frequently using Local Police, CII or FBI fingerprints). Who gives the expert forensic testimony? The answer is the Forensic Pathologist from the Medical Examiner-Coroner's Office. In addition, the Forensic Toxicologist from this office frequently testifies on the significance and effect of various drug levels, a matter of great concern when dealing with the concept of diminished capacity.

Any Judicial System dealing with crimes involving death requires a well trained and well equipped office that can and will interpret the forensic findings in an unbiased, fair manner. This investigation must be intense, accurate, and rapid enough so that charges against one or more individuals may be pursued or dismissed without unfairly affecting their constitutional rights. That is the purpose of this office.

The Coroner's Investigator responds to the scene of death and determines if the Police Homicide detail will be called. On those cases where homicide is obvious, the Coroner's Investigator responds as part of a team (other members, homicide inspectors, photographers, criminologists). The police are responsible for evidence with investigation pertaining to the crime. This office is responsible for the body, identification, inquiry into circumstances, manner and means of death. (Gov. Code 27491.2). Besides the scene, the Coroner's Investigator is responsible for property recovered, location and notification of next of kin and preparation of a written summary of their investigation.

HOMICIDE

In about one-third to one-half of the homicides, a forensic pathologist responds to the scene, aiding in the investigation. The autopsy including photography, may use fluoroscopy, X-rays, angiography or other techniques to establish and define the number, nature and severity of wounds, obtain evidence (i.e. bullets) and to prepare an official report. This report including chemistry, serology and toxicology as described is used as part of the prosecution or defense of the case in the formal judicial hearing.

If it were not for the very good Public Health ambulance service, this city would have approximately 250 homicides each year. Many more than that number experience major trauma yearly, but survive because of the excellent medical facilities in this county.

Of minor, but becoming increasingly important, is the fact that because of our excellent and advanced medical facilities, we are seeing more homicide and trauma cases transferred into the county for medical therapy. Should these individuals die, the autopsy and court testimony is done by this office.

In addition, we have been able to help other counties in their investigations, and have been able to establish the cause of death as a homicide in several cases that were previously undiagnosed.

H O M I C I D E S

Total number homicides..... 152

Males..... 108 Females..... 44

COMPARISON BY MONTH

1975						1976						TOTAL
JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	
9	17	13	7	11	25	14	11	15	8	12	10	152

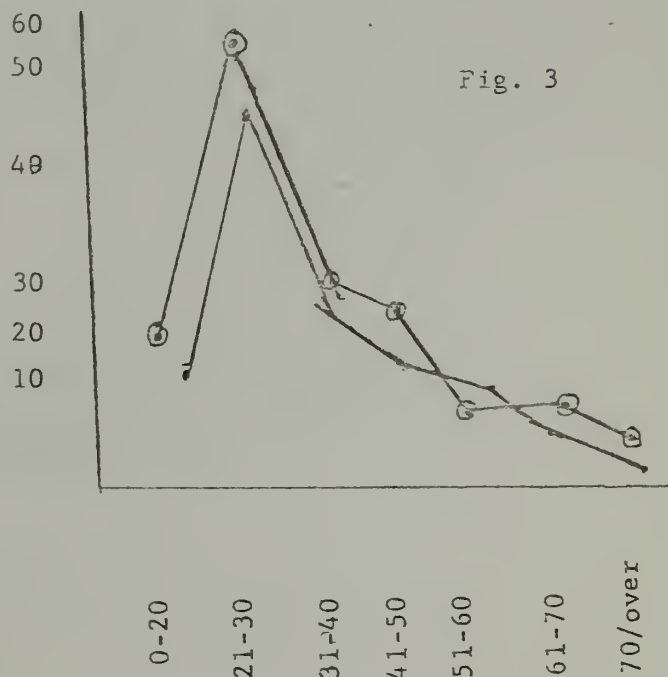
Includes 12 victims of Gartland Apt. Arson fire

COMPARISON BY RACE

Caucasion	84	American Indian	1
Negro	56	Other	2
Chinese	7		
Japanese	2		

COMPARISON BY AGE

	74-75	75-76
0-20	13	20
21-30	50	53
31-40	24	29
41-50	16	21
51-60	14	11
61-70	6	11
71-over	3	7



H O M I C I D E S

MOTIVE

ARGUMENT

Spouse	5
Relative	9
Non-Relative	56
Stranger	6
Robbery	19
Police	4
Citizen	2
Unknown	51

SPECIAL HOMICIDE**

Narcotics	22
Heterosexual	5
Homosexual	18
Psycho-sexual	10
Alcohol intoxication	12
Psychotic	4
Other***	17

**Data based on established motive or data proven in court.

***Includes "Gang-type" killings in Chinatown, etc.

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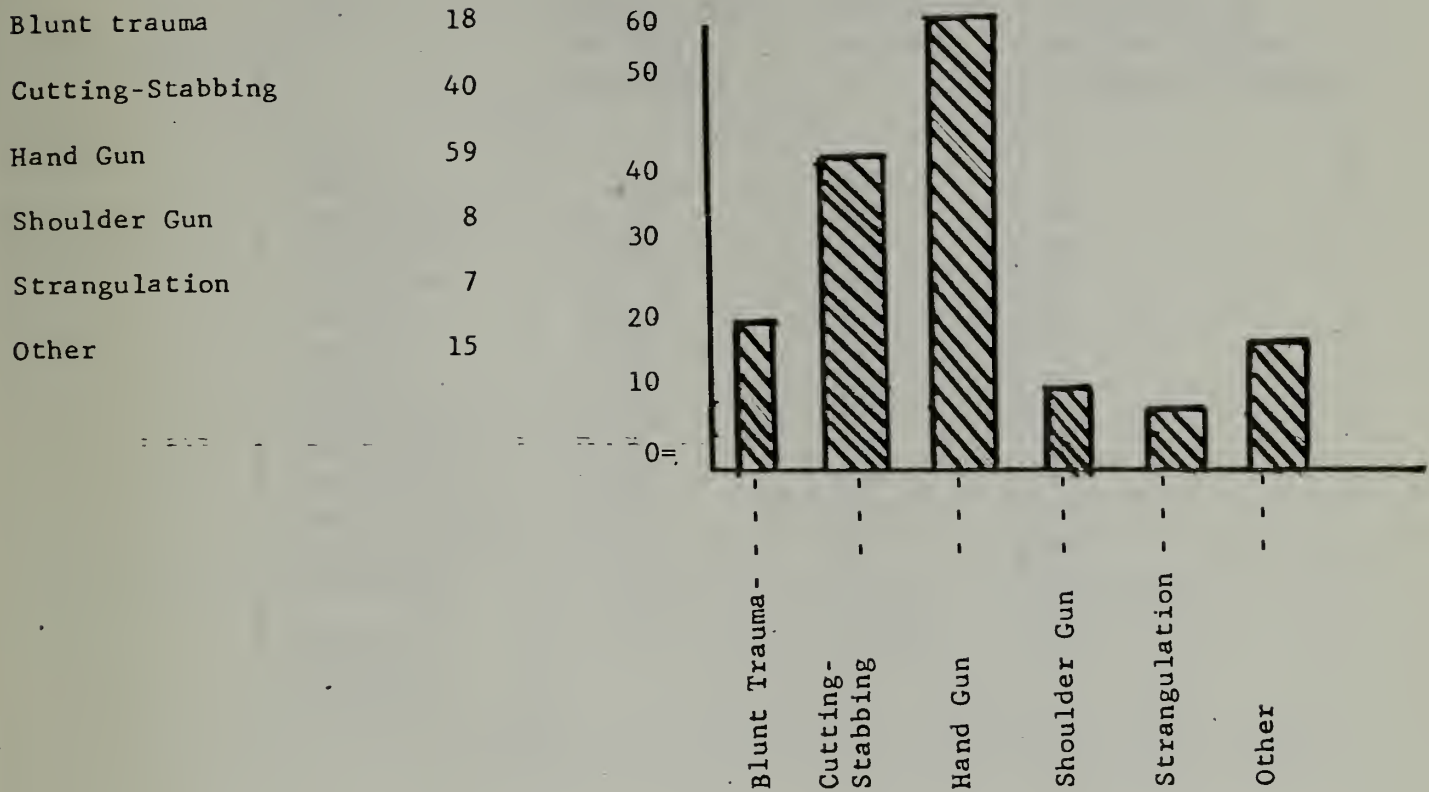
H O M I C I D E S

MOTIVE

CITY	PERCENTAGE* OF STRANGER HOMICIDES	PERCENTAGE OF HOMICIDES SOLVED
1975		
San Antonio	23	64
San Diego	25	93
Chicago	29	85
Detroit	31	74
New York	33**	65
Dallas	39	88
San Francisco	43	59
*Percentage of stranger homicides is based on total number of murder cases in which arests were made.		
**New York's stranger homicides are estimates based on the previous year's statistics.		

(Source-San Francisco Examiner Thursday, August 12, 1976)

H O M I C I D E S
COMPARISON BY METHOD



Alcohol present in victim	53*	(=35%)
Narcotics present in victim	23*	(=15.1%)
Other drugs present in victim	3*	
Alcohol present in suspect	16**	
Narcotics present in suspect	0**	
Other drugs present in suspect	9**	
Death related to Narcotics	50% ***	

* Patient may have survived long enough or had emergency therapy to alter validity of this data.

** Data on cases tested only, if suspect not apprehended immediately, no samples were taken.

*** Narcotics in victim, suspect or responsible for situation leading up to death. Obviously, this data is inconclusive since motive was not determined in some cases.

H O M I C I D E S

CITY COMPARISON

CITY	MURDERS PER 100,000 POPULATION	NUMBER OF MURDERS	PERCENTAGE OF MURDERS SOLVED (THROUGH ARRESTS)
<u>1975</u>			
Detroit	49.3	684	74
Washington	31.7	233	88
Oakland	30.9	107	66
Baltimore	29.4	259	85
Houston	25.9	343	76
Dallas	29.4	240	88
Chicago	25.7	818	85
Philadelphia	25.6	478	86
New York	21.5	1,645	65
Los Angeles	20.8	574	65
San Francisco	19.3	133	59
San Antonio	17.4	132	84
San Diego	9.1	69	93
National Average For 1974	9.7	20,600	80

Source - San Francisco Examiner Thur. Aug. 12, 1976

(Note - This data is different than ours for several reasons. Our numbers include all homicides determined by the department - whether or not transferred from another County to one of our advanced hospitals, or whether considered justified, etc. by the police. Therefore, our rate/100,000 population is higher than shown above.

H O M I C I D E S

EQUIVOCAL HOMICIDE VS ??

There were 29 deaths investigated jointly by the Chief Medical Examiner-Coroner's Office and the Homicide Bureau where the mode was unresolved. There was sufficient trauma and the scene or necropsy findings were of such a nature as to leave doubt in the mind of the medical examiner as to whether the injuries were caused by another.

CASES INITIALLY INVESTIGATED AS HOMICIDES, BUT SHOWN TO BE OTHERWISE.

There were in excess of 300 cases initially considered homicides. These were investigated, usually in conjunction with the Homicide Bureau, with the final results showing the death to be due to other causes.

COMPARISON BY YEAR

65-66	66-67	67-68	68-69	69-70	70-71	71-72	72-73	73-74	74-75	75-76
59	79	83	141	129	107	110	94	137	126	152

Homicide Rate/100,000 Population - 21.7

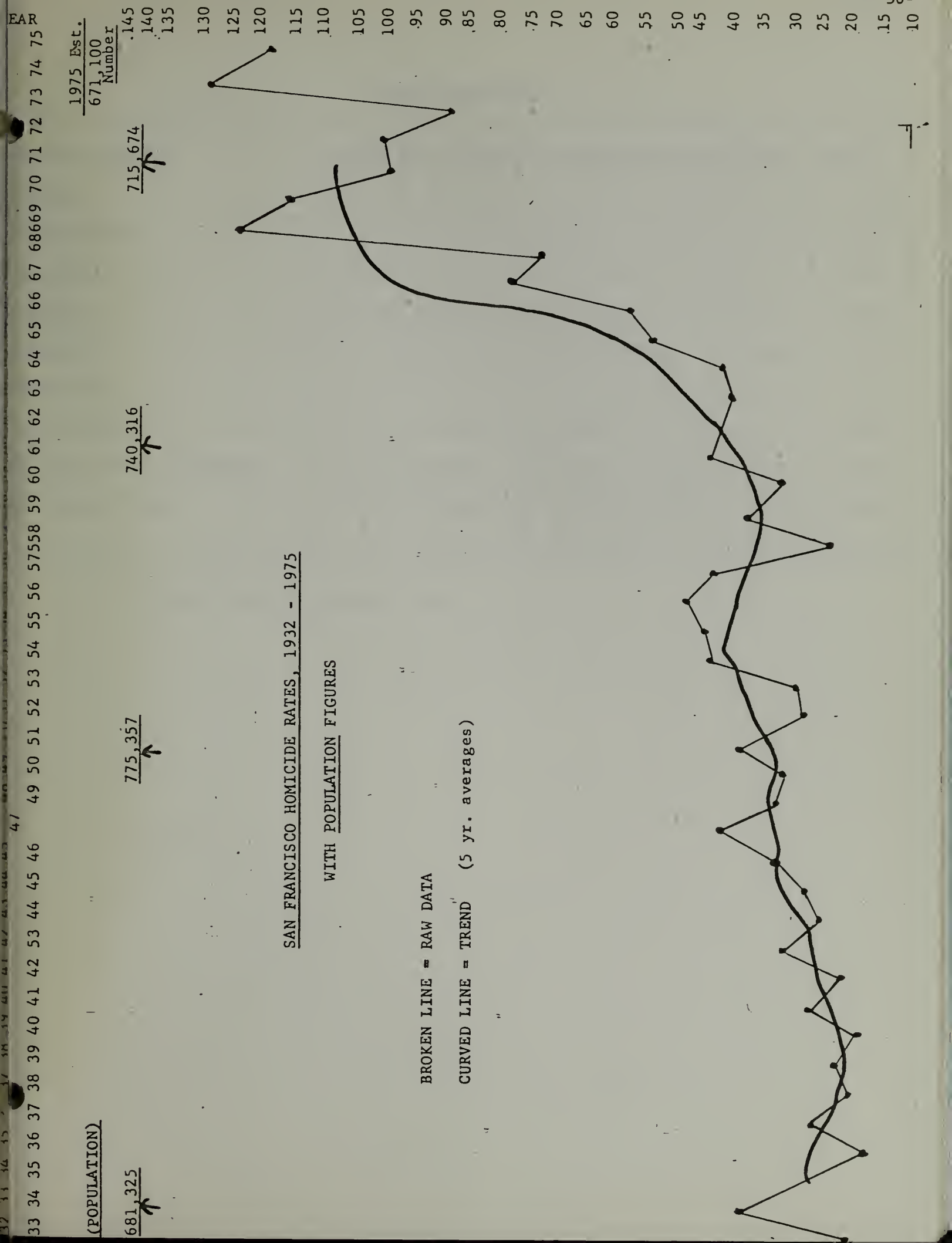
H O M I C I D E S

San Francisco's population is nearly the same as that of the period of the early 1930's: approximately 680,000 persons.

- A. However, the homicide rate has increased sixfold (from about 25 - 150 a year) in the past 40 years.
- B. The rate has quadrupled in the past 15 years.
- C. Between 1960 - 1965, the 5 year trend chart shows a nearly vertical ascent.
- D. Thus, yearly fluctuations can be misleading in themselves; they must be viewed in relation to previously recorded data showing trends, cycles and correlations with major historical periods.

General speaking, homicides in San Francisco have shown a fluctuation involving roughly a 5 year cycle. This means the rate peaks and descends in a regularly occurring manner when viewed collectively over the past 45 years of recorded data.

Most-importantly, the chart demonstrates that even with cyclic considerations, the trend has been sharply rising and the total number of cases increasing rapidly for more than a decade. One can only speculate on the meaning of such statistics, and could hardly predict the future rate of homicides in the city. But the history is only all too clear and the indications obvious when the information is closely examined in its proper perspective.



MONTHLY COMPARISON

MANNER OF DEATH	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
Unknown	0	0	1	1	0	1	2	0	3	0	0	1	9
Undetermined	3	2	1	4	3	4	3	4	6	1	5	3	39
Equivocal	2	3	0	1	0	1	2	0	2	6	3	2	22
Suicide	13	19	14	18	14	12	19	24	11	19	19	12	195
Homicide	9	17	13	7	11	25*	14	11	15	8	12	10	152
Industrial	2	0	1	0	1	1	0	2	2	2	0	0	11
Motor Vehicle	7	8	6	16	12	13	10	7	8	8	2	8	105
Accidents away from home	12	12	15	12	7	12	12	7	17	10	8	18	142
Accidents at home	18	12	15	11	24	23	18	18	16	20	19	16	210

*Includes Gartland apartment fire

PATHOLOGY

In this department, the tissue and body fluid samples taken at autopsy are prepared for microscopic study, histochemically stained, or analyzed for chemical constituent. Cardiac pacemakers or other mechanical life support devices are examined for any defect. Smears or "wet-mounts" are examined for spermatozoa, bacteria or tuberculosis. Bacteriologic cultures may be taken, but if pathogens are grown, they are usually sent to the Department of Public Health (State or Local) for further identification. If indicated, "soft" X-rays or histo-chemical tests are done to establish entrance or exit gunshot wounds. Here, also, research on new techniques such as methods of obtaining fingerprints from the skin of a victim are developed.

PATHOLOGY

[illegible]

TOXICOLOGY

Toxicology is the science that deals with the detection and identification of poisons. The most common poisons in our community are prescription items. Illegal drugs (ones for which there is no known medical merit, and which are against federal law to possess), industrial compounds, gases and alcohol are the most common agents. In our work, however, any possible agent may be of importance in the death. It is necessary, therefore, not only to accurately detect and identify the agent or agents, but to precisely quantitate them so that their exact relationship to the death, if any, can be evaluated. This determination must be as precise and specific as scientifically possible, and it must be able to stand up to review by any other qualified laboratory in the nation. As a routine part of our work, we determine the levels of drugs in two or more body "compartments", such as blood and stomach drug levels, or combinations of three compartments in order to answer the question of acute or chronic usage. This is of utmost importance in determining the time of ingestion, and therefore the intent of the ingestion-whether accident or suicide. Since the type and nature of the unidentified compound is so varied, so must the capabilities of this department be varied.

Considerable research comes from this department, some of which effects the classification of various prescription items, federal and local agencies, drug labeling, and how drugs are identified in postmortem cases. A recent project determined the types and levels of drugs in both the victim and the suspect in certain serious crimes. This information was then available for the courts to help in the just determination of the innocence or guilt of the person charged with the crime.

TOXICOLOGY

July 1975 - June 1976

Incidence of various drugs or poisons found singly or in combination:

These are not necessarily the cause of death or even a contributing cause. These figures reflect toxic agents present in the body to any degree. Any one case may have more than one drug or poison present.

Acetaminophen	4	Meprobamate	1
Acetone	20	Mercury	2
Alkaloid of		Methadone	5
morphine group	124	Methamphetamine	3
Amitriptyline (Elavil)	11	Methaqualone (Quaalude)	5
Amphetamine	3	Methyl alcohol	1
Barbiturates		Nitrate	1
Amobarbital	24	Nortriptyline	1
Barbital	1	Pentazocine (Talwin)	1
Pentobarbital	26	Perphenazine	1
Phenobarbital	18	Phenothiazine	2
Secobarbital	37	Propoxyphene (Darvon)	17
Carbon Monoxide	33	Salicylates	3
Carisoprodol (Soma)	1	Theophylline	4
Chloral Hydrate	7	Thioridazine (Mellaril)	6
Chlordiazepoxide (Librium)	7	Thorazine	5
Cocaine	1	Toluene	1
Codeine	28		
Cyanide	12		
Desipramine	1		
Diazepam (Valium)	23		
Diphenhydramine	1		
Diphenylhydantoin (Dilantin)	5		
Disulfiram (Antabuse)	1		
Doxepin (Sinequan)	2		
Ethchlorvynol (Placidyl)	2		
Ethylmorphine	1		
Flurazepam (Dalmane)	3		
Glutethimide (Doriden)	1		
Hydromorphone (Dilaudid)	1		
Imipramine	2		
Lead	2		
Lithium	1		
Meperidine (Demerol)	2		

YEAR	TOTAL NO. OF CASES	ALCOHOL			BARBITURATES		
		TESTED	POS.	NEG.	TESTED	POS.	NEG.
<u>1975</u>							
JULY	159	159	35	124	159	4	155
AUG	165	165	42	123	165	6	159
SEPT	195	195	36	159	195	6	189
OCT	172	172	36	136	172	13	159
NOV	187	187	43	144	187	11	176
DEC	232	230	55	175	231	2	229
<u>1976</u>							
JAN	205	205	50	155	205	8	197
FEB	204	204	39	165	204	7	197
MAR	187	186	41	145	186	7	179
APR	174	174	45	129	174	3	171
MAY	151	151	44	107	151	8	143
JUNE	215	215	44	171	215	5	210
TOTALS	2246	2243	510	1733	2244	80	2164

Year	No. of Cases Referred to Toxicologists	No. of Specimens Analyzed	No. of Separate Tests Performed	General Toxicologic Examinations	Sedative-Hypnotic Drug Screens Tested	Pos.	Neg.	Narcotic Drug Screens Tested	Pos.	Neg.
1975										
JULY	159	221	515	6	28	4	24	22	13	9
AUG	165	218	499	5	25	5	20	21	7	14
SEPT	195	260	571	3	30	7	23	30	12	18
OCT	172	232	520	1	23	12	11	18	10	8
NOV	187	228	565	0	33	11	22	21	9	12
DEC	232	285	690	1	31	4	27	31	10	21
1976										
JAN	205	264	619	3	33	9	24	31	15	16
FEB	204	254	585	0	30	7	23	24	9	15
MAR	187	261	591	3	31	9	22	33	19	14
APR	174	219	515	1	16	13	13	23	9	14
MAY	151	203	490	1	22	9	13	26	13	13
JUNE	215	275	635	0	29	6	23	29	15	14
TOTALS	2246	2920	6706	20	292	80	243	309	141	168

HEROIN DEATHS

Morphine-type alkaloid (heroin) deaths..... 79

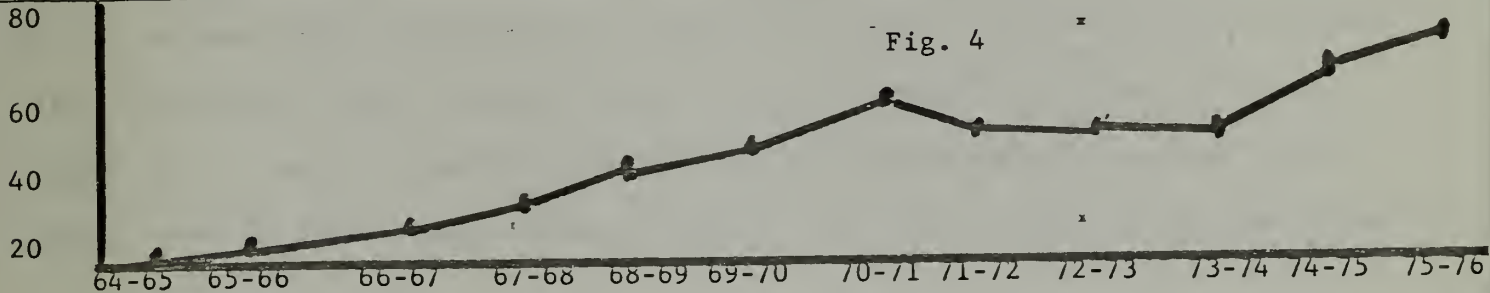
Male..... 50

Female..... 29

Age Breakdown

21	21-30	31-40	41-50	50-over
7	45	23	3	1

Comparison by year *



*This data

*These data are based on the Fiscal Year of the Annual Reports, rather than a calendar year. Heroin was a factor in over 1/2 the homicides in this County.

Additional References

- 1.) Acute Heroin Fatalities in San Francisco
WESTERN JOURNAL OF MEDICINE 122:455 June 1975

GOALS AND PLANNING

The deficiencies and shortcomings of a department are seldom apparent in an annual report. Suffice it to say that there are many areas of badly needed change in this office. The majority require money. There are several ways of bringing money and staff into the office without increasing the burden on the taxpayers. Many of these are made difficult to impossible by county generated "red-tape". In others, money generated by the office goes into city "coffers" without return to improve service or equipment. As an example, it has been conclusively shown that a copy machine in this office would more than offset its costs. This item has been repeatedly cut from the budget, necessitating one deputy having to be taken off his regular work to carry records to another building where he stands in line to make copies. Sale of these copies returns \$7,000 to the city; nothing to the department.

DEVELOPMENT, TRAINING AND RESEARCH

The potential for basic research in many fields to improve the understanding and quality of medical and community care is very high in this office. Not to teach pathologists or clinicians; not improve death investigation or identify health hazards essentially constitutes a "crime against nature". Nevertheless, our potential is largely unused, poorly managed and largely undeveloped. This is very unfortunate, because teaching grants alone could improve the quality of work we do, improve our capabilities and reduce the costs to the taxpayers.

Among current developments are the following:

DISASTER PLAN

In 1972, the National Oceanic and Atmospheric Administration completed a study for the San Francisco Office of Emergency Preparedness. Their report, "A Study of Earthquake Losses in the San Francisco Bay Area", is a 220 page highly detailed projection of what might happen should another major seismic disturbance occur as it did in 1906.

Last year, the San Francisco Department of Planning published a "Community Safety Plan", dealing with seismic and other safety elements of a total "Comprehensive Plan". Both texts provide a rich source of

DISASTER PLAN (CONT'D)

factual information on emergency programs, statistical data, and geographical and structural studies in evaluating the emergency safety status of San Francisco. Based on this most recent information, the Medical Examiner-Coroner's Office is continually updating the Disaster Response Plan. This plan and our disaster equipment is largely completed, and now we are starting to train our people how to use it.

RESEARCH

"Drug Abuse in Criminal Deaths", an LEAA Grant with a yearly \$30,000 budget is currently ending. Using professional toxicologists, this grant provided a wealth of information concerning the incidence of drugs in homicide deaths in San Francisco. Plans are underway for initiating a new grant as an off-shoot of this one when it expires. Its results directly relates to the judicial process in the county.

Further research is planned in the area of the Sudden Infant Death Syndrome. The National Institute of Health, Department of Health, Education and Welfare, is in the process of funding a number of research projects in this main cause of deaths in infants between one month of age and one year claiming 10,000 lives every year in the United States.

TRAINING

A comprehensive in-service Training Manual for the Coroner's Investigators has just been completed. It includes chapters on every facet of the prescribed duties of the investigators, and marks the beginning of an extensive effort to upgrade the quality of Coroner's personnel without the benefit of training funds.

A videotape machine would provide the project media for the next area of emphasis which is specialized and advanced training. Plans include such areas as management and supervisory training for the staff and classes in the latest medical techniques for the investigators. A formal training program is planned for classroom training of the personnel involved in the investigative and judicial process associated with these cases.

GOALS AND PLANNING

Training is a major objective. Our investigators (with the awesome responsibility of investigating death to determine crime, suicide or health hazard) receive no formal training. They have been repeatedly kept from Civil Service Classifications that would give them benefits including outside training. As a direct result of this philosophy they are now among the lowest paid investigators in the State of California - if not the lowest. The City does not even furnish them with such small items as flashlight batteries, or rain coats (cut out of the budget). Obviously, training, adequate working conditions and equipment are major goals for the next year.

We are starting a training program this year to give our personnel, as well as, those of the district attorneys and public defender's office specific knowledge to investigate and try the various criminal matters in this County on the basis of the real facts of the case as they can be realistically determined for the benefit of all involved. It is hoped that in the future, administration will accept that not to train responsible individuals is a poor and sometimes costly management policy.

Much of our instrumentation needs updating badly, both to give us the equipment capability we should have to handle the work being done; and to give the greater capability needed to answer the important, frequently difficult, unusual and complex questions relating to death investigation.

We do have one abundance. That is, dedicated people with great feeling and loyalty to this office. People with sympathy and understanding who work many times without pay or adequate compensation to help the living. We have been able to add one full time forensic pathologist and need to add another in order to do the quality of work needed for our case load. Our forensic consultants are a valuable addition.

PARTIAL LIST OF LECTURES, SEMINARS AND DISCUSSIONS

Emergency Medical Services	4
Naval Regional Medical Center	3
San Francisco Dental Society	2
Trauma Society	1
American Association Forensic Society, Atlanta	
California Society Pathology-Forensic Committee	4
State Department of Health - S.I.D.S.	1
Emergency Medical Care-Committee Chairman	18
Hastings Law School	1
California Coroner's Association	2
National Association Underwater Investigation Diving Methods	1
University of California at Davis	2
San Francisco College of Mortuary Science	2
University of California Medical Students	2
Rape Investigation	3
U.C. Pediatrics, San Francisco General Hospital	2
Northern California Council on Sudden Infant Death	6
National Homicide Conference	1

SOCIETIES OR COMMITTEES

American Trauma Society, California Chapter, Board of Directors

Northern California Chapter-National Foundation Sudden Infant Death
Medical Advisor

California Coroner's Association-Committee Member, Forensic Pathology

Naval Regional Medical Center, Oakland-Consultant Forensic Pathology

American Academy of Forensic Sciences-Fellow

National Association of Medical Examiners



A N N U A L R E P O R T

July 1, 1976 - June 30, 1977

BOYD G. STEPHENS, M.D.
Chief Medical Examiner-Coroner
7th and Bryant Streets
San Francisco, California 94103



September 19, 1977

Honorable George R. Moscone, Mayor
and Members of the Board of Supervisors
City Hall - Civic Center
San Francisco, CA 94102

Dear Mr. Mayor and Honorable Supervisors:

Although the resident population of San Francisco is declining (665,000 at last census), the socio-economic change, as well as many other factors, is resulting in the increased incidence of criminal deaths or suspicious deaths in this community. The judicial process is rightly requiring more detailed investigation and reports for their use. Training requirements for law enforcement and medical personnel is increasing. The number of drugs and industrial compounds is always increasing. Each of these factors in our changing world works to maintain and increase the workload in this office.

The public concept of death, along with its fears and misconceptions, is changing slowly. However, most people do not understand what we do and would really not wish to find out--until they have a family tragedy in which we have to answer to the courts or the family as to the cause and manner of death. Only at that time do they begin to realize our function and impact on the state of the community.

Because we do not control salaries or hiring policy, the operating policy of the office is changing slightly. We need several more full time specialists to improve our capabilities. Because of the complexities involved, our instrumentation requires improvement. Our people need training and equipment to do their jobs well. These goals can only be achieved with the continued support of county government.

A potential plan to improve department revenues has been discussed previously. Obviously, costs to the taxpayer must be kept low, but in much of our work, to do an incomplete investigation costs the taxpayer more in the long run and results in false economy. This department will always be largely dependent on tax revenues. It is possible to increase county revenues.

Over the last few years we have made some procedural and administrative changes to improve both the function of the office and cost accounting. In our governmental program of responsibility without authority, however, it is difficult to realistically make the sweeping changes that are sometimes needed. Cost accounting is difficult, since we relate to so many other departments. Several years ago, we estimated that the cost to the county of a day in superior court on a major criminal case was approximately \$6,000 per day. If the work this department

does on any one case saves the prosecution and defense one to three days, there is obviously a considerable savings to the taxpayer, but one that is not always possible to directly relate to this department. The converse is also true. These factors, however, directly relate to cost savings for the county.

We cannot eliminate any of the duties of this department because most of them are state or county mandates. There are several, however, that we are forced to share without being funded for them, i.e., testifying on alcohols done by the county lab.

Functional breakdown of departmental activities:

The functions of this department are tightly interwoven. No one section can function independent of another, and in most cases requires a "product" from another in order to perform its task. However, there are several basic functions that can be separated. These are:

Investigative
Administrative
Forensic Pathology
Inquest
Judicial

In order to understand each of these functions, a brief explanation is required.

Investigative - This division consists of 10 deputy coroners (Coroner's Investigators) who work eight-hour shifts, covering 24 hours/day, seven days per week. They make the original determination whether the case falls under the jurisdiction of the office based on state law. This frequently requires scene investigation, evaluation of injuries, search for evidence and for the next of kin. Because of the importance and the emotional impact involved, this is not an easy job. In some cases the body is damaged, yet the deputy must still be thorough in his work, least he miss a homicide or public hazard. It requires close association with other public agencies.

There is no "product" per se of the deputy's investigation that can be accurately counted which truly reflects the work involved. However, during the last fiscal year, the deputies investigated 2,146 cases, prepared written reports for use by others, notified police, relatives and others, as well as doing the scene investigation. They took a total of 4,039 reports of death, but after some level of investigation released 1,893 cases for the physician's signature on the death certificate.

Administrative - This section is involved with the day to day function of the office, preparation of the typed reports of the forensic investigation as part of our official records, estate investigation, work with relatives and next-of-kin, and interfacing with other branches of public government. They are responsible

for the sale of public records and public auction. It is impossible to give realistic production numbers to reflect their workload. Even in estimating families served, the number is invalid, since one family may be contacted only once, while another is seen multiple times. They are involved, however, in every case entering the office, as well as some that do not fall under our jurisdiction.

Forensic Pathology - This division is involved in scene investigation, the medical-legal autopsy, pathology and toxicology. One investigation may require half an hour, while another may take days or weeks. Every case taken by this office is autopsied. Some are easy cases to determine the cause and manner of death. With increasing frequency, however, they are becoming more and more difficult. It is of the utmost importance to the prosecution and defense to know the type of weapon involved, time of death, or levels of drugs in a body. This is where that data is determined if it is possible to do so.

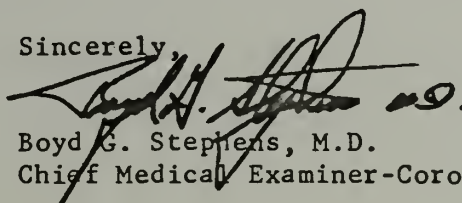
Inquest - An inquest is a formal hearing into the death. The Coroner or Medical Examiner has the power of subpoena and the responsibility to question witnesses to determine the facts of a case. Although not generally recognized by the public, these are important for many reasons. Last year there were 85 inquests held by this department.

Judicial - Presentation of expert testimony to the courts, preparation with the attorneys, and preparation for court presentation is given by this department in over 300 cases. There is no additional cost to the county for this expert testimony, and none for the preparation. This is producing a problem for the department, since there is no budget for film, etc., and the increasing court load effectively removes that expert from other work for the duration of the testimony. For example, when the toxicologist testifies, we lose half a day or more on toxicology reports.

Research - The research section is responsible for developing and performing work designed to improve our understanding of disease process, drug interactions, environmental poison or pollution levels, and improvement of medical treatment capabilities. It is designed to be self supportive on the basis of grant monies. Since we are the only agency to have the material, we have a responsibility to use that material in the manner legally possible in order to improve this and other communities.

We wish that our job was not necessary, but it is. Furthermore, its value to the community is directly related to the quality of forensic work done. With this annual report, the office completes one segment of its work and looks forward to helping our community with the next one.

Sincerely,



Boyd G. Stephens, M.D.
Chief Medical Examiner-Coroner

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INTRODUCTION

Most people only know that we handle dead bodies. Many think that we merely pick them up, and that the police or fire department identify the person and determine how they died. In fact, in some communities, that is partly true. Here, however, we operate as a separate office, directly under the jurisdiction of the Chief Administrative Officer. We are responsible both historically and legally under California State Law for the determination of cause and manner of death, as well as who died, where and if possible contacting the next of kin.

Sudden, unexpected or traumatic deaths are expensive to the taxpayers. Besides the frequently needless loss of life, the investigation and judicial process costs are considerable. Our estimate of \$6,000 per day for a superior court trial may be related to the fact that if data is unclear or incompletely prepared, hours and days may be spent while attorneys argue the case, rather than the facts. Therefore, we feel the proper training and investigative studies is sound financial management, as well as important to the proper outcome of the case.

Adelson states:

"Until the pathologist has demonstrated that death was produced directly or indirectly by some kind of violence or culpable negligence, there is no homicide to investigate... If he mis-diagnoses a non-existent homicide, he may place an innocent person in jeopardy... Conversely, if he fails to give adequate weight to the part played by violence and concludes that death resulted entirely from natural causes, a murderer goes free, and a crime goes unpunished."

(Lester Adelson, M.D., The Pathology of Homicide, 1974, Charles C. Thomas Co., Pub.)

Presenting the medical data as an expert witness is not always a simple affair. The victim may be badly damaged or in some other way be aesthetically unpleasant to examine. If, however, the innocent and the guilty are to be clearly separated, then the wounds, natural disease and artifacts must be clearly defined or described so that the jury can try the facts of the case. No one's liberty should be taken, nor should the guilty be set free because the scene, victim or scientific information was not collected and completely interpreted, or even lost through ignorance.

The forensic scientist does not work alone. He or she depends on close association with police, public health, research scientist and judicial specialist. This chain of responsibility, if it is to serve justice, must have every link strong and unbreakable. A criminal charge should be based on facts, and the medical-legal aspects of the case must be accurately and unbiasedly prepared and interpreted for the courts.

Since this office is responsible for determining the cause and manner of all deaths other than natural, our investigation must be as complete and accurate as possible. It must be rapid but exacting. A determination of death by suicide, homicide or accident must be supportable beyond a reasonable doubt. Such decisions have far reaching ramifications.

A city like San Francisco should have a really "top-notch" Medical Examiner's office. To do so improves and benefits the living in many ways directly, and in many more by indirect or sometimes intangible means.

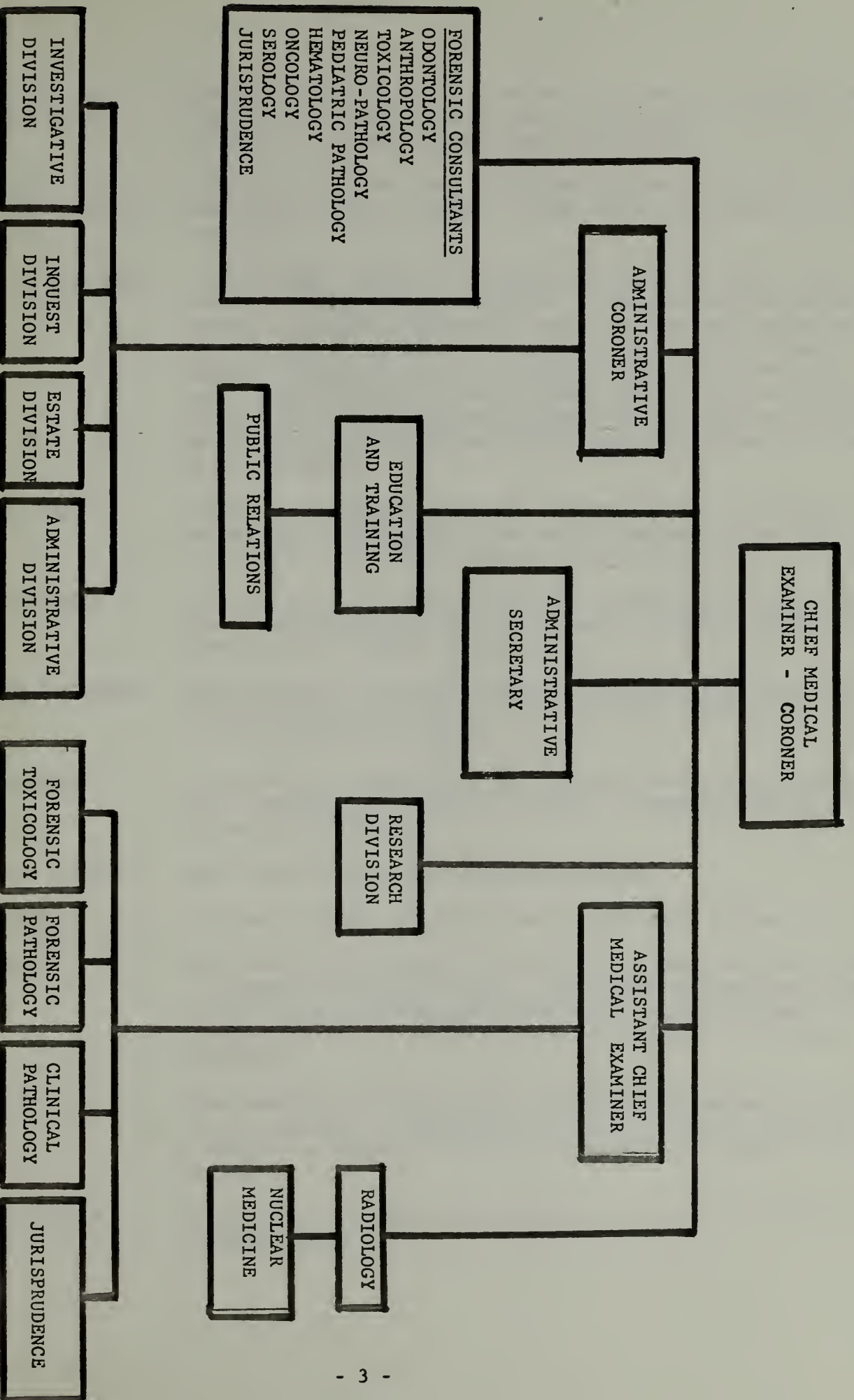
DEPARTMENTAL COSTS

The costs to the taxpayer for operating this department around the clock are indicated below. Except as indicated, the total budget allocated to this department is simply divided by the number of cases investigated.

1976-77

Total Budget	\$ 688,433.00
Transfers to the Controller, Health and Retirement	123,705.00
NET BUDGET (All other costs)	564,728.00
Total Cases	4,039
Cost per case investigated	139.82
Revenues (sales of records, public auctions)	10,251.76
Total costs Ad Valorum Taxes/ Per Case Investigated	<u>\$ 137.28</u>

As indicated elsewhere, this includes all investigative, administrative, scientific and expert witness costs to the county.



GLOSSARY

ALKALOID OF MORPHINE GROUP	Typically referred to as morphine type alkaloid, this is the chemical substance found in body fluids after the injection of heroin, or other drugs derived from opium.
TOXICOLOGY NOT VALID OR ELIMINATED	This term indicates that the deceased lived long enough after the injury to have eliminated some or all toxic agents from the body.
FORENSIC PATHOLOGY	The specialty field of medicine involving the application of medical and pathology principles in determining the cause and manner of sudden, unexpected, and medically unattended deaths. This includes the type and nature of injury, public health hazard, type or nature of homicide weapon, the relation of injury to death and interpreting other factors for the courts. These data are prepared and presented to the judicial system or for public health interests in keeping with the best available knowledge.
MODE OF DEATH	Indicates the manner of death, such as natural, accident, suicide or homicide, and is to be distinguished from cause of death which is purely a medical determination.
MODE EQUIVOCAL	With the cause of death determined, investigative data does not clearly differentiate between two modes of death, although some evidence supports either one.
MODE UNDETERMINED	With the cause of death determined, investigative data does not clearly support one of two possible modes, and either one is possible without prejudice.
MODE UNKNOWN	Circumstances insufficient to indicate between two possible modes, as when only bones are found, or when no medical cause of death is determined.
MULTIPLE VEHICLE	More than one passenger vehicle involved.
NON-TRAFFIC	Accident occurred off the street in driveway, garage, etc.
PATHOLOGY	That branch of medicine which deals with the essential nature of disease, especially in the structural or functional changes in tissues, organs or systems of the body causing disease. It involves the diagnosis of disease by microscopic or chemical analysis.
SEROLOGY	That branch of pathology that deals with the analysis of blood and body fluids. Blood types for identification, exclusion of a suspect or judicial purposes are examples of the use in this office.
SINGLE VEHICLE	Vehicle struck pole, wall, divider, etc. without the influence of another vehicle.

GLOSSARY

TOXICOLOGY	The scientific study of poisons, their detection, actions and treatment. The relations of drug levels to emotional or personality change, behavioral or reasoning ability are frequent decisions based on this data.
MEDICAL EXAMINER	A physician specifically trained in forensic pathology who is responsible for investigating and determining the cause and manner of sudden or unexpected death.
AUTOPSY	A scientific dissection of the human body to determine the cause and nature of death. To detect public health hazards, determine the method or type of death in homicides and improve the level of medical care in the community. In some cases, showing that no injury or wrongdoing was present is of great emotional and stabilizing value to the family.

FISCAL YEAR 1976-77

Total deaths in County		8,644
Total deaths reported to Coroner		4,039
Cases reported, investigated and cleared by the Coroner for physician's signature		1,893
Coroner's Cases		2,146
Percent of all deaths in San Francisco County reported to Coroner		46.7%
Percent of all County deaths having Coroner's autopsies		24.8%
Cases accepted by Coroner		
1. Natural deaths	1,362	63.4%
2. Accidents	301	
3. Suicides	233	
4. Homicides	149	
5. Mode equivocal	67	
6. Cause unknown	12	
7. Cause undetermined	22	
Autopsies performed		2,146
Autopsy Index		100%
Burials authorized by Coroner		
1. Indigents and fetuses buried in City	142	
2. Veterans buried by funeral homes on rotation basis	33	
3. Cases buried by funeral homes on rotation basis with Public Administrator con- trolled funds	31	
Inquests held or depositions taken		85
Identification		
1. Persons brought to Coroner's Office with insufficient identification		277
2. Persons subsequently identified by fingerprints, dental x-ray or other means		272
3. Persons buried as unidentified		5
4. Fingerprints taken and forwarded to F.B.I., C.I.I. or S.F.P.D.		2,041

MODE OF DEATH - YEARLY COMPARISON

<u>ACCIDENTS</u>	66-67	67-68	68-69	69-70	70-71	71-72	72-73	73-74	74-75	75-76	76-77
	Motor Vehicle	99	102	129	112	105	113	122	82	89	75
<u>Non-Vehicular</u>	244	256	286	365	370	352	319	256	349	363	226
<u>SUICIDES</u>	234	237	246	281	263	206	227	220	224	195	
<u>HOMICIDES</u>	79	83	141	129	107	110	94	137	126	152	

MOTOR VEHICLE ACCIDENTS

JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	TOTAL
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	------	-------

4	4	6	6	7	8	10	4	7	9	5	5	75
---	---	---	---	---	---	----	---	---	---	---	---	----

Alcohol present	23	Driver	18
Barbs	0	Passenger	10
TNV	25	Pedestrian	35
Non-Motor Vehicle	2		

INDUSTRIAL ACCIDENTS

1976-1977

Total number of Industrial Accidents 6

MEANS

Asphyxiation 0

Burns 1

Crushing 0

Struck by object 4

Falls 1

Miscellaneous 0

SEX

Male 6 Female 0

Alcohol positive 1

Alcohol negative 4

Test not valid 1

Other drugs 0

ACCIDENTS AT HOME

	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	TOTAL
Number	18	10	14	13	16	13	17	9	12	9	7	10	148
Male	9	5	8	9	6	5	11	8	6	5	4	5	81
Female	9	5	6	4	10	8	6	1	6	4	3	5	67
Food Bolus	1	0	0	0	0	0	1	0	0	0	0	0	2
Aspiration	1	0	0	1	0	1	2	0	1	0	0	0	6
Other	3	2	2	1	4	3	1	1	1	1	0	1	20
Burns in San Francisco	3	0	2	2	5	1	1	3	3	4	2	2	28
Burns outside San Francisco	0	2	0	0	0	1	0	3	0	0	0	0	5
Gas/Carbon Monoxide	0	0	0	0	0	0	0	0	0	0	0	0	0
Fall	5	5	5	3	4	6	11	1	3	0	3	6	52
Poison	5	1	5	6	3	1	1	1	4	4	2	1	34

VIOLENT DEATHS

There were 2146 cases brought to the Coroner's Office and autopsied. Of these cases, 784 were determined to be due to violence, or that other trauma was involved.

Mode	Total No.	% of Total Coroner's Cases	% of Total County Deaths (8644)
Accident	301	14.0	3.5%
Motor Vehicle	75	3.5	
At Home	148	7.0	
Away From Home	72	3.4	
Industrial	6	0.3	
Suicide	232	10.8	2.7
Homicide	149	6.9	1.7
Other violent deaths of mode equivocal or undetermined.	89	4.1	1.0

ACCIDENTS AWAY FROM HOME

	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	TOTAL
Number/Mth	5	9	4	4	10	6	4	8	4	7	8	3	72
Male	5	6	4	4	5	4	3	7	3	5	6	3	55
Female	0	3	0	0	5	2	1	1	1	2	2	0	17
Alcohol	0	1	1	0	0	2	0	3	1	3	4	1	16
Tox Not Valid	2	3	1	1	5	1	4	0	2	0	1	0	20
Other Drugs	0	0	0	0	0	0	0	0	0	2	0	0	2
Narcotics	1	0	2	0	0	0	0	1	0	1	0	0	5
Barbs	1	1	0	0	0	0	0	0	0	0	3	0	5
Food Bolus	0	2	0	0	0	1	0	1	2	0	1	0	7
Aspiration	0	1	0	1	2	0	0	0	0	0	1	0	5
Drowning	1	0	1	1	1	0	0	5	0	1	1	1	12
Handgun	0	0	0	0	0	0	0	0	0	0	0	0	0
Shoulder gun	0	0	0	0	0	0	0	0	0	0	0	0	0
Auto/Appliance C.O.	0	0	0	0	0	0	0	0	0	0	0	0	0
Burns/S.F.	0	0	0	0	0	4	0	0	0	1	0	0	5
Burns/Outside S.F.	0	1	0	0	0	0	0	0	0	0	0	0	1
Toxic Poison*	2	1	2	0	0	0	0	1	0	3	2	0	11
Fall	0	2	0	2	1	1	3	1	1	0	0	2	13
Other	2	2	1	0	6	0	1	0	1	2	3	0	18

*includes drug deaths.

S U I C I D E

The determination of suicide as a manner of death represents the summation of scene investigation, including a review of psychological state, autopsy, pathology, toxicology and frequently, more investigation. To the best of our knowledge, this is the only office performing toxicology of multiple organs or body fluids routinely, in order to evaluate the metabolic status of a drug or drugs. This enables us to more accurately determine acute ingestion from chronic or potentiation effect by drugs. Realizing the immense emotional effect on a family, the diagnosis of suicide is never made lightly, and always represents a decision made on the basis of data sufficient, if necessary, to defend that decision in a court of law. Should these data be inconclusive, then the victim automatically gets the benefit of doubt.

Suicide takes a tremendous toll of our young people. The relative number jumping from the Golden Gate Bridge would not seem to warrant the publicity assigned them when compared to the need evident for help administered to individuals using other methods.

To help understand the problems, and hopefully aid in the reduction, this office has supported suicidology, research and prevention programs for many years. It is hoped that this work will help reduce this needless loss.

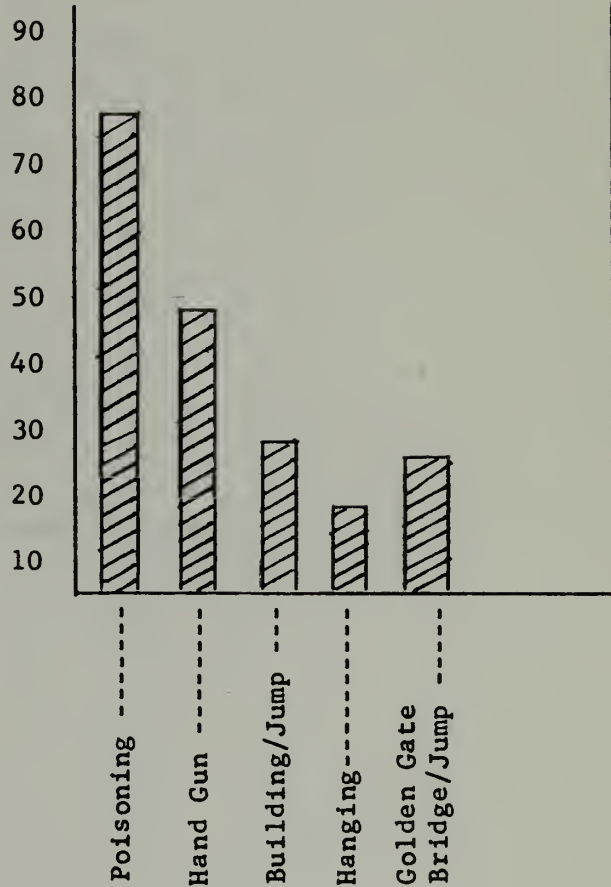
The majority of these deaths are situational reactions, and given proper momentary trained support, are potentially preventable.

S U I C I D E S

TOTAL NUMBER 1976-77 233

<u>METHOD</u>	NUMBER	
	1975-76	1976-77

Poisoning	56	79
Golden Gate Bridge	19	28
Bay Bridge	1	1
Auto-Carb.Mono.	3	1
Plastic Bag	7	6
Hanging	19	20
Cutting/Stabbing	5	2
Hand Gun	44	49
Shoulder Gun	10	13
Jump/Building	25	30
Drowning	3	4
Other	3	0



SEX

Male	134	172
Female	61	61

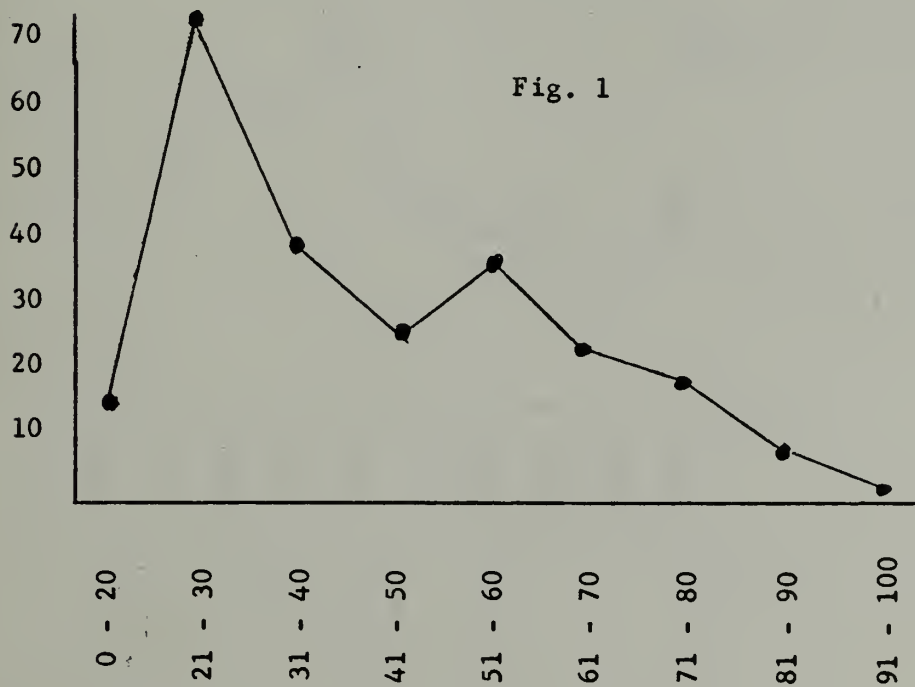
RACE

Caucasian	178	209
Negro	12	13
Chinese	3	7
Japanese	1	0
Filipino	1	2
American Indian	0	0
Other	0	2

S U I C I D E S

COMPARISON BY AGE

AGE	1975-76	1976-77
0 - 20	8	14
21 - 30	55	71
31 - 40	36	38
41 - 50	36	25
51 - 60	26	34
61 - 70	16	23
71 - 80	17	19
81 - 90	8	8
91 -100	1	1
Alcohol Present.	58	52
Other drugs	55	95



S U I C I D E S

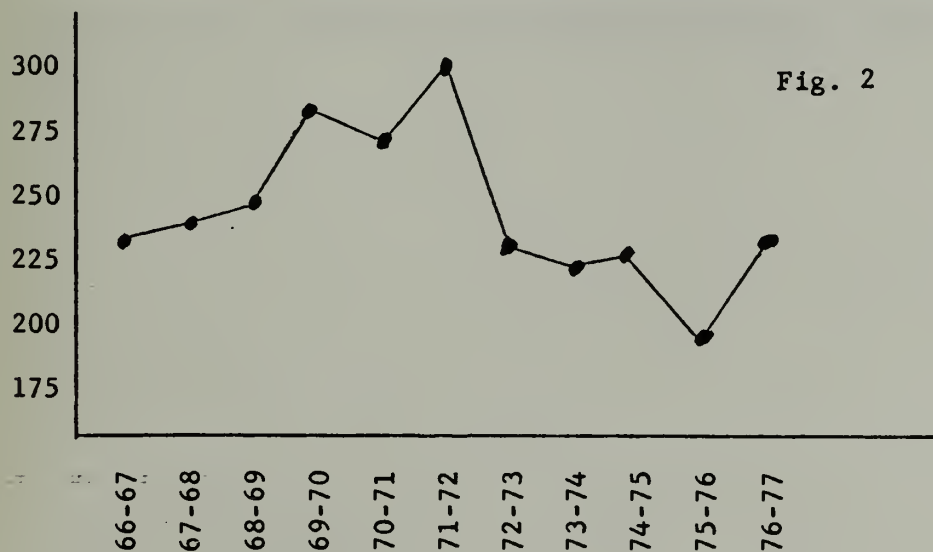
COMPARISON BY YEARS

Method	66-67	67-68	68-69	69-70	70-71	71-72	72-73	73-74	74-75	75-76	76-77
Poisoning **	87	106	102	114	75	74	69	51	76	56	79
Handguns	35	27	50	33	32	38	33	43	45	44	49
Golden Gate Bridge	9	23	10	14	20	28	16	21	14	19	28

** Predominant drug is barbiturate or barbiturate in combination with other compounds.

COMPARISON TOTAL SUICIDES BY YEAR

66-67	67-68	68-69	69-70	70-71	71-72	72-73	73-74	74-75	75-76	76-77
234	237	246	281	263	296	227	220	224	195	233



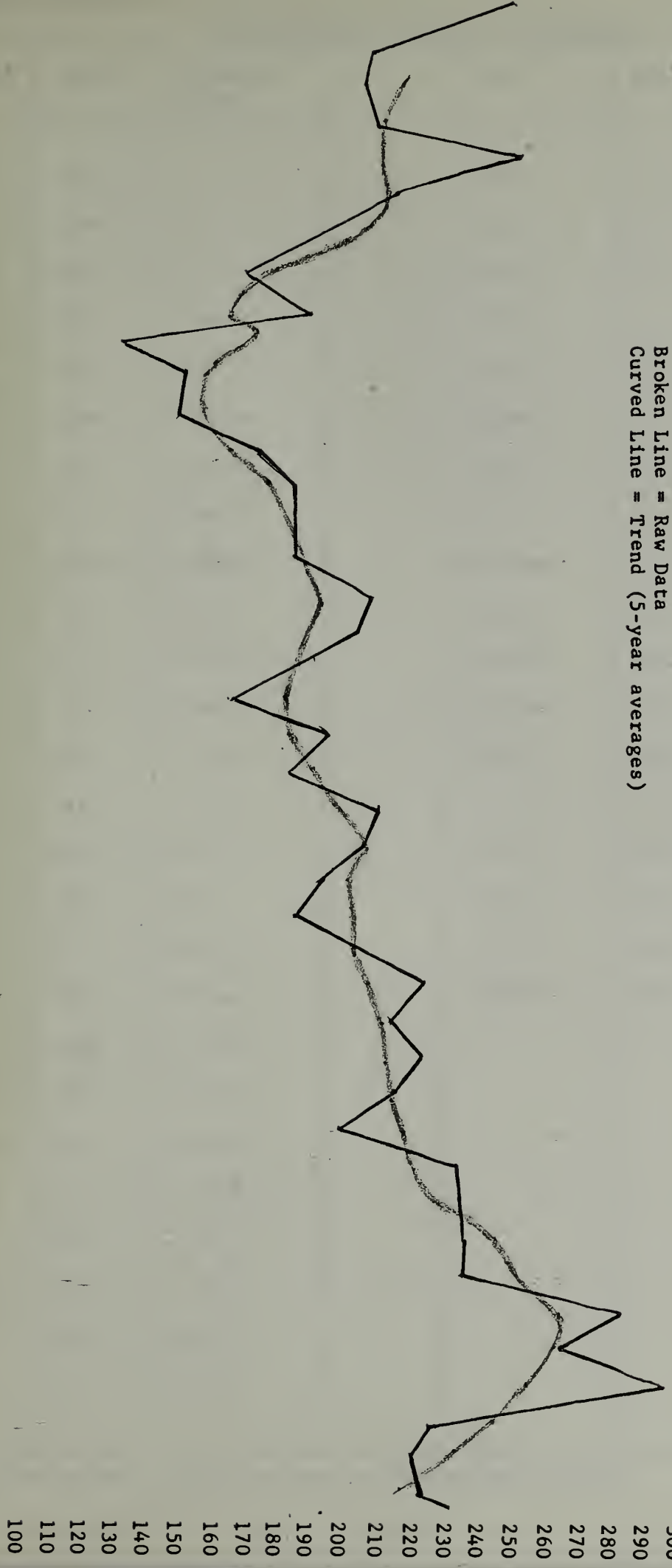
SUICIDE

The following chart represents the suicide rate for San Francisco since 1933-34. Trends and cyclic changes are sometimes difficult to predict, and even understand when they occur. So many factors effect the suicide rate, yet at times of great national stress, the rate may not change as predicted. Other data submitted with this report indicates the changing age population, as well as the changing method of suicide. This is still predominately a disease of the young, although more older patients are evident lately. In many of the cases where the data is known, the temporary despondency may have been reversible if professional counsel were available. In other cases, the patient made the decision to take his life, and then took premeditated steps to complete his plans.

33 34 35 36 37 38 39 40 41 42 43 44 45 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76

SAN FRANCISCO SUICIDE RATES - 1933 - 1976

Broken Line = Raw Data
Curved Line = Trend (5-year averages)



SAN FRANCISCO CORONER'S STATISTICS

YEAR	HOM.	SUIC.	SUICIDE TREND	YEAR	HOM.	SUIC.	SUICIDE TREND
1-33	25	256	-----	59-60	34	202	204.2
2-34	43	248	-----	60-61	47	222	209
3-35	32	208	-----	61-62	44	212	214.2
4-36	22	206	226.6	62-63	43	220	213.6
5-37	30	215	221	63-64	44	215	215.8
6-38	24	256	217.6	64-65	55	199	220.2
7-39	26	220	211.6	65-66	59	233	223.6
8-40	23	191	206.6	66-67	79	234	229.8
9-41	29	176	182.2	67-68	74	237	246.2
10-42	25	191	168	68-69	127	246	252.2
11-43	34	133	179.8	69-70	118	281	264.6
12-44	29	149	160	70-71	101	263	262.6
1-45	31	150	159.8	71-72	102	296	257.4
2-46	35	178	170.8	72-73	90	227	246
3-47	45	189	183	73-74	131	220	232.4
4-48	36	188	194	74-75	121	224	219.8
5-49	34	210	196	75-76	152*	195	
6-50	42	205	191.2	76-77	149	233	
7-51	31	188	192.8				
8-52	32	165	187.8				
9-53	46	196	188.8				
10-54	48	185	192.8				
11-55	50	210	199				
12-56	46	208	197.6				
1-57	27	196	201				
2-58	39	189	203.4				

Homicide figures up to this point were received from the Police Department and were not always consistent with statistics kept by the Coroner's Office.

HOMICIDE

Homicide is the killing of one human by another. The following data does not differentiate further into justifiable, accidental or murder. Murder is the unlawful killing of a human being with malice. Such distinctions are the proper function of the Judicial System, and are not the responsibility or function of this office.

The proper evaluation and investigation of a homicide begins, naturally, at the scene. Who determines if a death is a potential homicide? The answer is that in the majority of cases, a member of this office does (either the Coroner's Investigator, Administrative Coroner or Medical Examiner-Coroner). It has been well documented that if the determination is made by individuals inexperienced or untrained in death investigation, that their opinion will be wrong in over 50% of the cases. They are very apt to miss the subtle homicide and are much more apt to miscall a natural or accidental death, resulting in false arrest, false accusations, needless expenditure of public funds, a waste of investigative time for many people and a delay in investigation of other deaths.

The very first requirement of our Judicial System pertaining to criminal trial, requires the identification of an individual and the presentation of evidence, usually by virtue of expert forensic testimony, of the cause of death or trauma associated with the death. The entire remainder of the trial frequently deals only with whether or not the accused caused those injuries and answers the question of intent. Who identifies the body? The answer is that the Medical Examiner-Coroner's Office does (frequently using Local Police, CII or FBI fingerprints). Who gives the expert forensic testimony? The answer is the Forensic Pathologist from the Medical Examiner-Coroner's Office. In addition, the Forensic Toxicologist from this office frequently testifies on the significance and effect of various drug levels, a matter of great concern when dealing with the concept of diminished capacity.

Any Judicial System dealing with crimes involving death requires a well trained and well equipped office that can and will interpret the forensic findings in an unbiased, fair manner. This investigation must be intense, accurate and rapid enough so that charges against one or more individuals may be pursued or dismissed without unfairly affecting their constitutional rights. That is the purpose of this office.

The Coroner's Investigator responds to the scene of death and determines if the Police Homicide detail will be called. On those cases where homicide is obvious, the Coroner's Investigator responds as part of a team (other members, homicide inspectors, photographers, criminologists). The police are responsible for evidence with investigation pertaining to the crime. This office is responsible for the body, identification, inquiry into circumstances, manner and means of death. (Gov. Code 27491.2). Besides the scene, the Coroner's Investigator is responsible for property recovered, location and notification of next of kin and preparation of a written summary of their investigation.

HOMICIDE

In about one-third to one-half of the homicides, a forensic pathologist responds to the scene, aiding in the investigation. The autopsy including photography, may use fluoroscopy, X-rays, angiography or other techniques to establish and define the number, nature and severity of wounds, obtain evidence (i.e. bullets) and to prepare an official report. This report including chemistry, serology and toxicology as described is used as part of the prosecution or defense of the case in the formal judicial hearing.

If it were not for the very good Public Health ambulance service, this city would have approximately 250 homicides each year. Many more than that number experience major trauma yearly, but survive because of the excellent medical facilities in this county.

Of minor, but becoming increasingly important, is the fact that because of our excellent and advanced medical facilities, we are seeing more homicide and trauma cases transferred into the county for medical therapy. Should these individuals die, the autopsy and court testimony is done by this office.

In addition, we have been able to help other counties in their investigations, and have been able to establish the cause of death as a homicide in several cases that were previously undiagnosed.

H O M I C I D E S

Total number homicides 149

Males 123 Females 26

COMPARISON BY MONTH

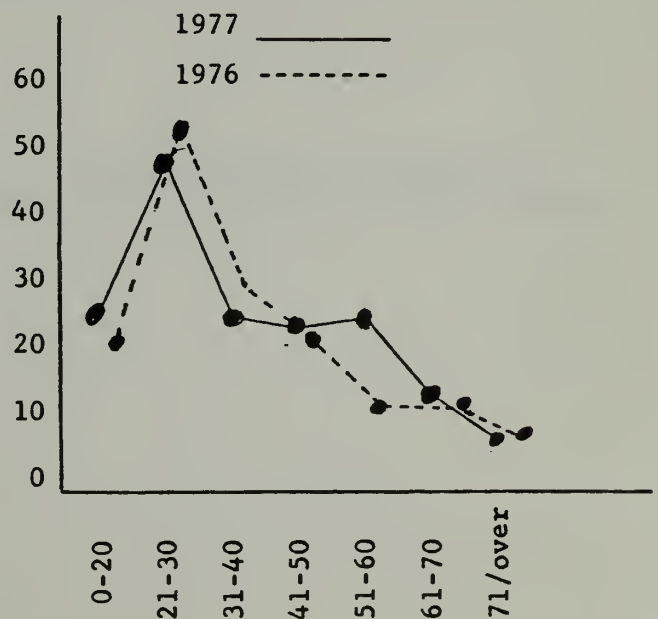
1976						1977						TOTAL
JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	
11	11	15	11	13	12	20	15	7	16	7	11	149

COMPARISON BY RACE

Caucasion	80	American Indian	2
Negro	62	Filipino	1
Chinese	4	Other	0
Japanese	0		

COMPARISON BY AGE

	<u>75-76</u>	<u>76-77</u>
0-20	20	23
21-30	53	45
31-40	29	22
41-50	21	21
51-60	11	22
61-70	11	11
71-over	7	5



H O M I C I D E S

MOTIVE

ARGUMENT

Spouse	6
Relative	7
Non-Relative	33
Stranger	11
Robbery	28
Police	5
Citizen	0
Unknown	30

SPECIAL HOMICIDE *

Narcotics	Unknown
Heterosexual	3
Homosexual	3
Psycho-sexual	6
Psychotic	2

* These figures are, of course, inconclusive, as circumstances leading up to the crime are not always known and not necessarily followed up by this office.

H O M I C I D E S

MOTIVE

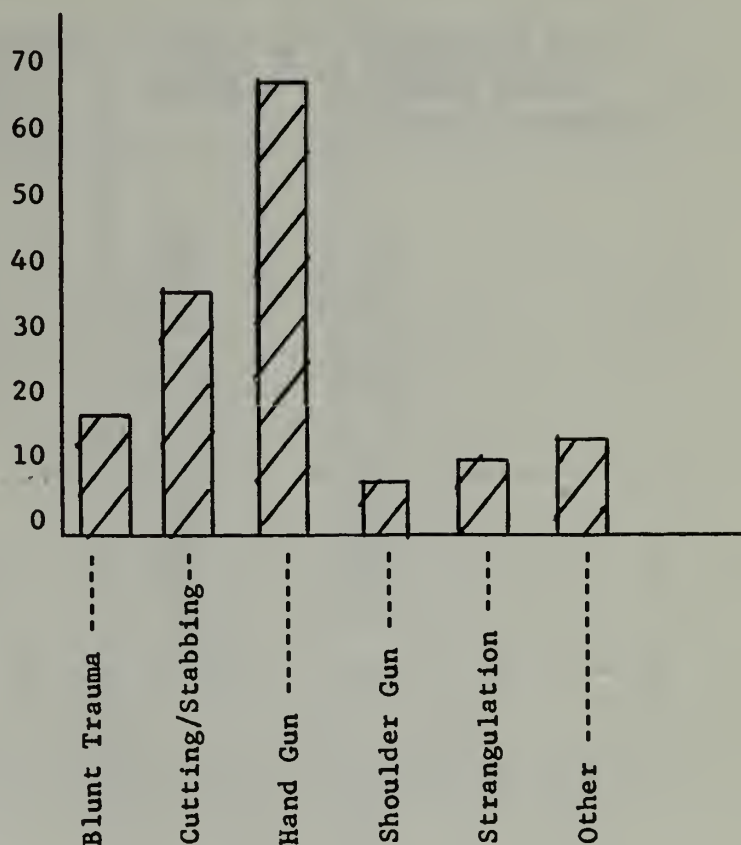
CITY	PERCENTAGE* OF STRANGER HOMICIDES	PERCENTAGE OF HOMICIDES SOLVED
1975		
San Antonio	23	64
San Diego	25	93
Chicago	29	85
Detroit	31	74
New York	33**	65
Dallas	39	88
San Francisco	43	59
*Percentage of stranger homicides is based on total number of murder cases in which arrests were made.		
**New York's stranger homicides are estimates based on the previous year's statistics.		

(Source-San Francisco Examiner Thursday, August 12, 1976)

HOMICIDES

COMPARISON BY METHOD

Blunt Trauma	17
Cutting-Stabbing	35
Hand Gun	68
Shoulder Gun	7
Strangulation	10
Other	12



Alcohol present in victim	54* (= 36.2%)
Narcotics present in victim	18* (= 12%)
Other drugs present in victim	4*
Alcohol present in suspect	8** (of 15 tested)
Narcotics present in suspect	3** (of 8 tested)
Other drugs present in suspect	2** (of 14 tested)

* Patient may have survived long enough or had emergency therapy to alter validity of this data.

** Data on cases tested only, if suspect not apprehended immediately, no samples were taken.

H O M I C I D E S

CITY COMPARISON

CITY	MURDERS PER 100,000 POPULATION	NUMBER OF MURDERS	PERCENTAGE OF MURDERS SOLVED (THROUGH ARRESTS)
<u>1975</u>			
Detroit	49.3	684	74
Washington	31.7	233	88
Oakland	30.9	107	66
Baltimore	29.4	259	85
Houston	25.9	343	76
Dallas	29.4	240	88
Chicago	25.7	818	85
Philadelphia	25.6	478	86
New York	21.5	1,645	65
Los Angeles	20.8	574	65
San Francisco	19.3	133	59
San Antonio	17.4	132	84
San Diego	9.1	69	93
National Average For 1974	9.7	20,600	80

Source - San Francisco Examiner Thur. Aug. 12, 1976

(Note - This data is different than ours for several reasons. Our numbers include all homicides determined by the department - whether or not transferred from another County to one of our advanced hospitals, or whether considered justified, etc. by the police. Therefore, our rate/100,000 population is higher than shown above.

H O M I C I D E S

EQUIVOCAL HOMICIDE VS ??

There were 17 deaths investigated jointly by the Chief Medical Examiner-Coroner's Office and the Homicide Bureau where the mode was unresolved. There was sufficient trauma at the scene or necropsy findings were of such a nature as to leave doubt in the mind of the medical examiner as to whether the injuries were caused by another.

CASES INITIALLY INVESTIGATED AS HOMICIDES, BUT SHOWN TO BE OTHERWISE.

There were in excess of 300 cases initially considered homicides. These were investigated, usually in conjunction with the Homicide Bureau, with the final results showing the death to be due to other causes.

COMPARISON BY YEAR

66-67	67-68	68-69	69-70	70-71	71-72	72-73	73-74	74-75	75-76	76-77
79	83	141	129	107	110	94	137	126	152	149

Homicide Rate/100,000 Population = 22.6

H O M I C I D E S

San Francisco's population is nearly the same as that of the period of the early 1930's: approximately 680,000 persons.

- A. However, the homicide rate has increased sixfold (from about 25 - 150 a year) in the past 40 years.
- B. The rate has quadrupled in the past 15 years.
- C. Between 1960 - 1965, the 5 year trend chart shows a nearly vertical ascent.
- D. Thus, yearly fluctuations can be misleading in themselves; they must be viewed in relation to previously recorded data showing trends, cycles and correlations with major historical periods.

General speaking, homicides in San Francisco have shown a fluctuation involving roughly a 5 year cycle. This means the rate peaks and descends in a regularly occurring manner when viewed collectively over the past 45 years of recorded data.

Most-importantly, the chart demonstrates that even with cyclic considerations, the trend has been sharply rising and the total number of cases increasing rapidly for more than a decade. One can only speculate on the meaning of such statistics, and could hardly predict the future rate of homicides in the city. But the history is only all too clear and the indications obvious when the information is closely examined in its proper perspective.

34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77

(POPULATION)

681,325

775,357

740,316

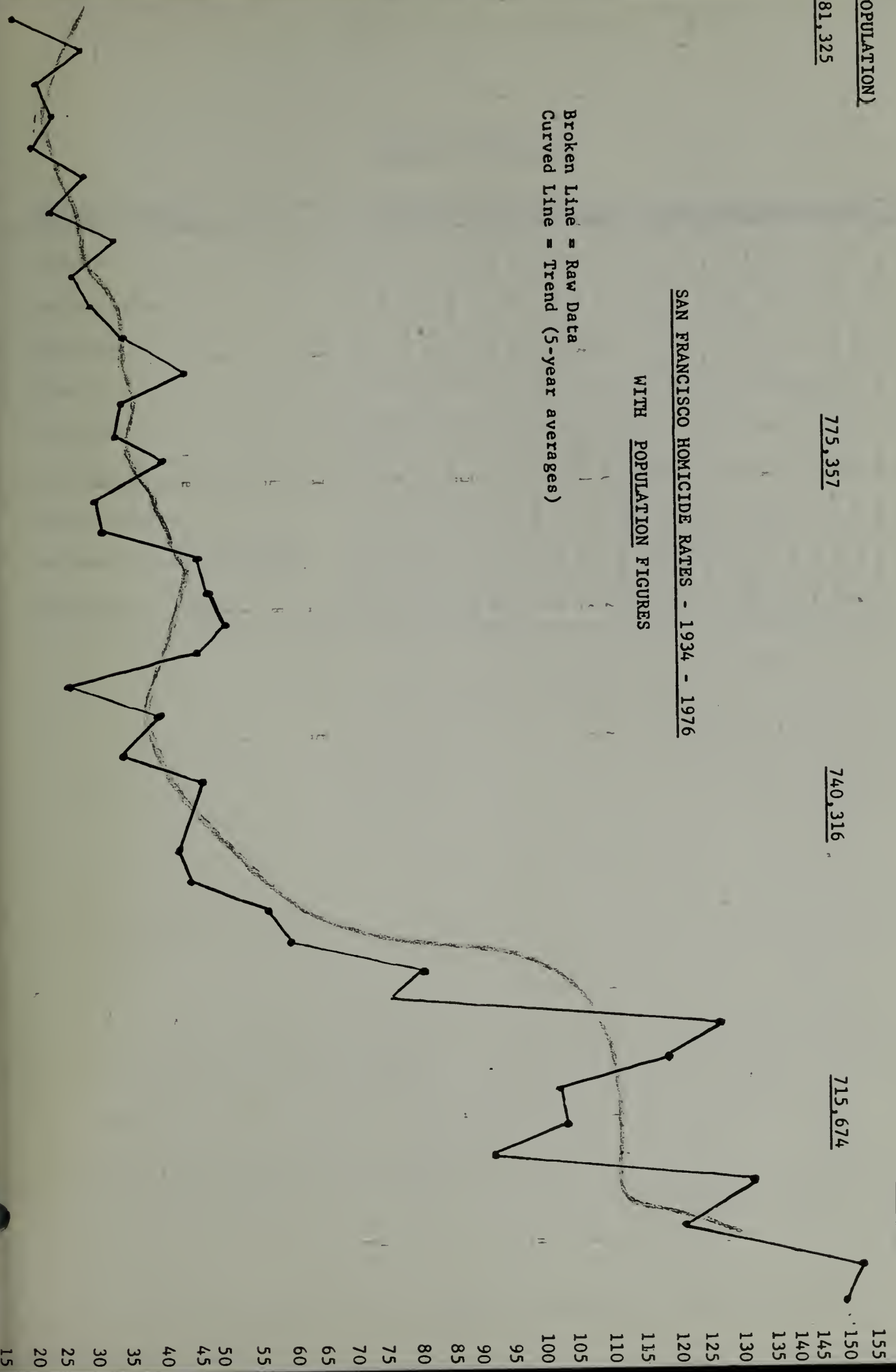
715,674

1976 Population
665,000

SAN FRANCISCO HOMICIDE RATES - 1934 - 1976

WITH POPULATION FIGURES

Broken Line = Raw Data
Curved Line = Trend (5-year averages)



MONTHLY COMPARISON

MANNER OF DEATH	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
Unknown	0	3	0	0	1	3	0	2	1	1	0	1	12
Undetermined	2	4	3	2	4	2	1	1	0	1	1	1	22
Equivocal	1	3	8	6	2	5	9	4	6	11	7	5	67
Suicide	25	17	18	16	18	16	24	18	22	18	22	19	233
Homicide	11	11	15	11	13	12	20	15	7	16	7	11	149
Industrial	0	0	0	1	1	2	0	0	0	1	1	0	6
Motor Vehicle	4	4	6	6	7	8	10	4	7	9	5	5	75
Accidents Away from Home	5	9	4	4	10	6	4	8	4	7	8	3	72
Accidents at Home	18	10	14	13	16	13	17	9	12	9	7	10	148

PATHOLOGY

In this department, the tissue and body fluid samples taken at autopsy are prepared for microscopic study, histo-chemically stained, or analyzed for chemical constituent. Cardiac pacemakers or other mechanical life support devices are examined for any defect. Smears or "wet-mounts" are examined for spermatozoa, bacteria or tuberculosis. Bacteriologic cultures may be taken, but if pathogens are grown, they are usually sent to the Department of Public Health (State or Local) for further identification. If indicated, "soft" X-rays or histo-chemical tests are done to establish entrance or exit gunshot wounds. Here, also, research on new techniques such as methods of obtaining fingerprints from the skin of a victim are developed.

PATHOLOGY

	1976						1977						TOTAL
	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	
Number Cases Referred	119	101	115	108	128	161	132	117	98	119	109	111	1,418
Organs Referred for Study	302	329	342	334	376	518	491	514	412	468	417	493	4,996
Tissue Blocks Studied Microscopically	847	816	887	819	1073	1359	1294	1171	994	1386	1133	1493	13,272
Special Stains*	21	45	21	23	39	29	71	42	19	43	45	34	432
Blood Groupings**	12	15	14	12	19	17	7	8	15	5	14	14	152
X-Rays													700
Photographs													2,500
Bacterial Cultures and Smears (including AFB)													1,000
Cardiac Pacemakers Tested													50
Other Determinations***	19	49	29	62	58	60	15	77	78	16	94	58	615

*Includes Smears examined for bacteria and spermatozoa.

**ABO and Anti Rh.

***Blood, urine, water, evidence - for hematology, biochemistry, urinalysis, bacteriology, serology, "Sicklelex", etc.

COMPARISONS 1975-76 - 1976-77

	<u>1975-76</u>	<u>1976-77</u>
Number Cases Referred	1,210	1,418
Organs Referred for Study	3,679	4,996
Tissue Blocks Studied Microscopically	9,803	13,272
Special Stains	375	432
Blood Groupings	141	152
X-Rays	625	700
Photographs	2,400	2,500
Bacterial Cultures & Smears (including AFB)	142	1,000
Cardiac Pacemakers Tested	63	50
Other Determinations		615

TOXICOLOGY

Toxicology is the science that deals with the detection and identification of poisons. The most common poisons in our community are prescription items. Illegal drugs (ones for which there is no known medical merit, and which are against federal law to possess), industrial compounds, gases and alcohol are the most common agents. In our work, however, any possible agent may be of importance in the death. It is necessary, therefore, not only to accurately detect and identify the agent or agents, but to precisely quantitate them so that their exact relationship to the death, if any, can be evaluated. This determination must be as precise and specific as scientifically possible, and it must be able to stand up to review by any other qualified laboratory in the nation. As a routine part of our work, we determine the levels of drugs in two or more body "compartments", such as blood and stomach drug levels, or combinations of three compartments in order to answer the question of acute or chronic usage. This is of utmost importance in determining the time of ingestion, and therefore the intent of the ingestion-whether accident or suicide. Since the type and nature of the unidentified compound is so varied, so must the capabilities of this department be varied.

Considerable research comes from this department, some of which effects the classification of various prescription items, federal and local agencies, drug labeling, and how drugs are identified in postmortem cases. A recent project determined the types and levels of drugs in both the victim and the suspect in certain serious crimes. This information was then available for the courts to help in the just determination of the innocence or guilt of the person charged with the crime.

TOXICOLOGY

July 1976 - June 1977

Incidence of various drugs or poisons found singly or in combination:

These are not necessarily the cause of death or even a contributing cause. These figures reflect toxic agents present in the body to any degree. Any one case may have more than one drug or poison present.

Acetaminophen	4	Mysoline	1
Acetone	4	Nortriptyline	2
Acetylsalic	1	Phenacetin	1
Alkaloid of morphine group	88	Phenothiazine	8
Amitriptyline (Elavil)	13	Phenylbuzatone	1
Amphetamine	1	Phenytoin	4
Arsenic	1	Propoxyphene (Darvon)	20
Barbiturates		Quinidine	2
Amobarbital	23	Salicylates	19
Pentobarbital	25	Serum insulin	1
Phenobarbital	19	Theophylline	9
Secobarbital	37	Thioridazine (Mellaril)	3
Caffeine	1	Thorazine (chlorpromazine)	3
Carbon Monoxide	28	Trimethobenzamide	2
Chloral Hydrate	7	Warfarin (coumadin)	1
Chlordiazepoxide (Librium)	9		
Cholinesterase	1		
Cocaine	3		
Codeine	35		
Cyanide	2		
Desipramine	1		
Diazepam (Valium)	15		
Digoxin	1		
Diphenhydramine	2		
Doxepin (Sinequan)	5		
Ethchlorvynol (Placidyl)	8		
Flurazepam (Dalmane)	3		
Glutethimide (Doriden)	7		
Hydromorphone (Dilaudid)	1		
Imipramine	2		
Lithium	1		
Marcaine	1		
Meprobamate	1		
Methadone	10		
Methamoglobin	1		
Methamphetamine	10		
Methapyrilene	1		
Methaqualone (Quaalude)	2		

Year/ Month	# Cases Re- ferred to Toxicology	# Specimens Analyzed	# Separate Tests Performed	Alcohol		Barbiturates		Gen. Tox. Exams.	Sedative-Hypnotic Drug Screens		Narcotic Drug Screens	
				Tested	Pos.	Tested	Pos.		Tested	Pos.	Tested	Pos.
1976												
JUL	170	242	509	170	31	170	9	0	36	11	28	9
AUG	169	219	527	169	33	169	8	5	33	8	22	7
SEP	157	212	498	154	33	157	5	2	27	7	20	5
OCT	160	204	498	157	37	158	7	0	19	6	26	9
NOV	190	246	580	190	26	190	4	1	21	6	27	7
DEC	196	255	642	194	45	195	10	1	39	17	29	12
1977												
JAN	220	276	654	206	40	208	9	0	38	10	27	8
FEB	169	206	489	167	26	168	2	2	18	2	20	6
MAR	176	223	490	176	33	176	6	1	16	6	16	4
APR	162	213	592	170	27	171	1	0	23	1	22	5
MAY	197	237	585	196	29	196	8	1	23	8	17	6
JUN	162	217	520	158	24	160	7	1	27	7	22	11
TOTALS	2128	2750	6584	2107	384	2118	76	14	320	89	276	89

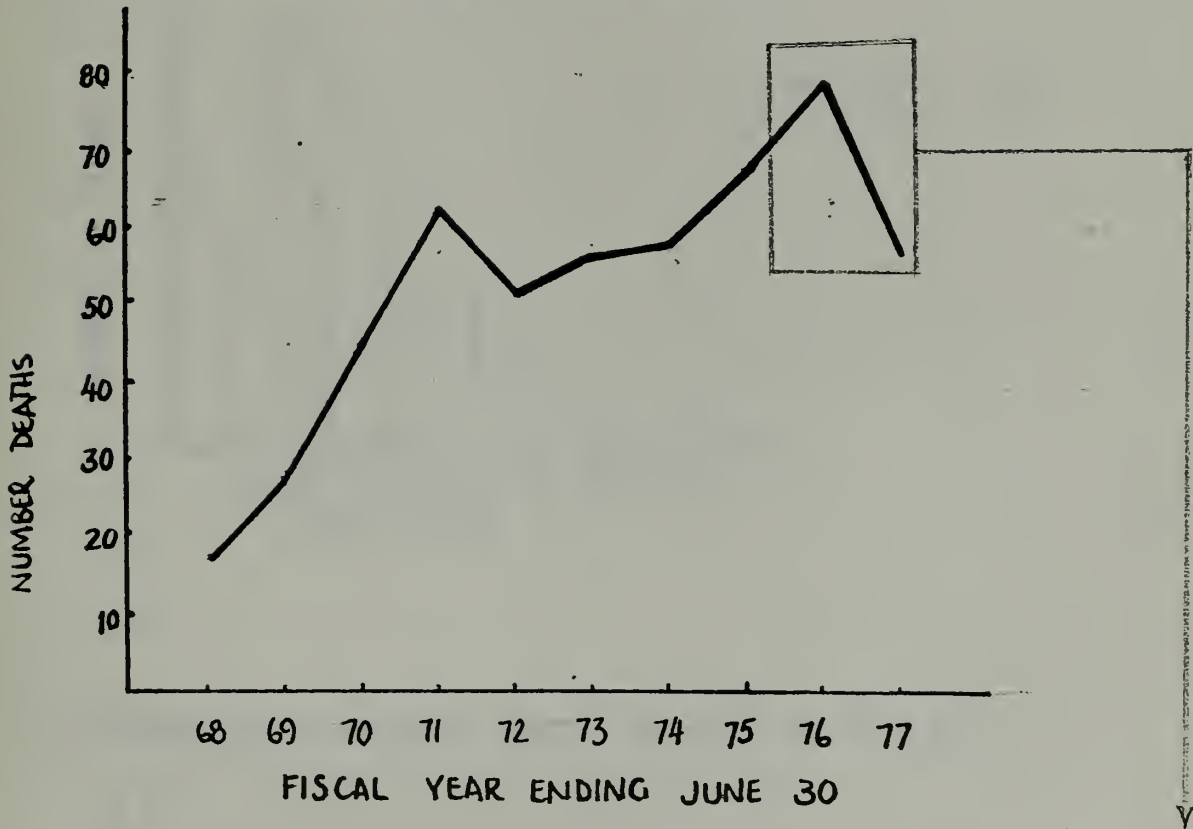
HEROIN DEATHS

Morphine-type alkaloid (heroin) deaths - 58

Male - 44
Female - 14

White - 37 (63.8%)
Negro - 18 (31.0%)
Chinese - 2 (3.4%)
Japanese - 1 (1.7%)

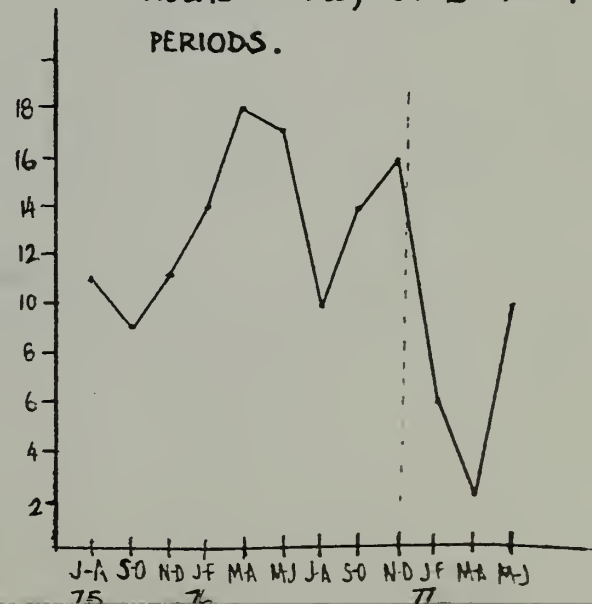
TEN-YEAR COMPARISON OF HEROIN DEATHS.



The detail graph at right, representing the last two years, more clearly shows the sudden drop in heroin-related deaths which occurred after the first of this year. While there were 40 deaths in the last half of 1976, there were only 18 deaths in the first half of 1977.

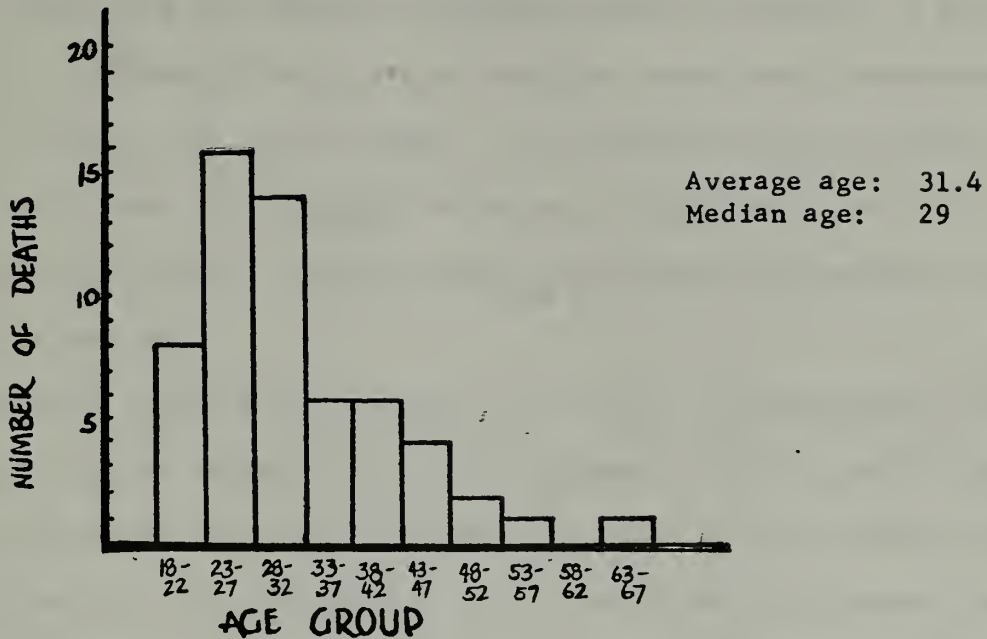
It would be difficult to draw conclusions regarding this drop from our data alone, since we are dealing with such small numbers. However, other major cities throughout the country have shown a similar decline during this period. It appears that the San Francisco data is representative of a change that is occurring nationwide.

COMPARISON OF LAST TWO FISCAL YEARS, BY 2-MONTH PERIODS.

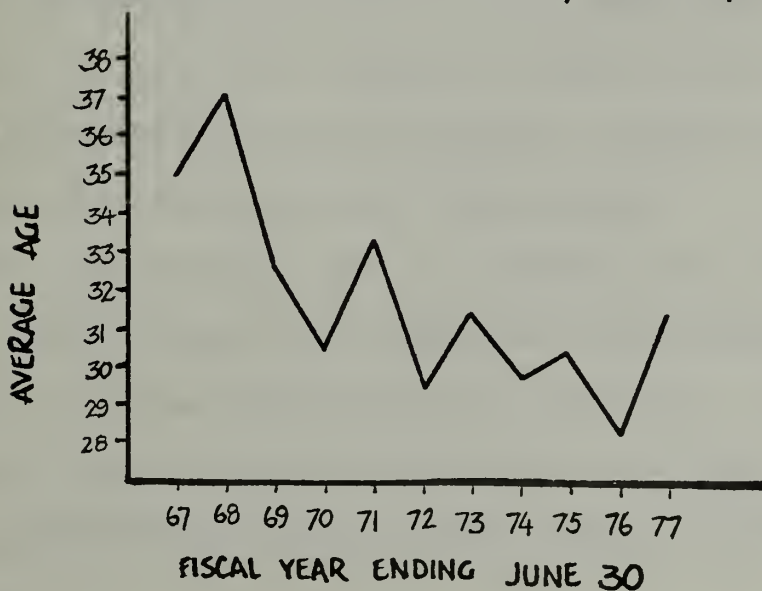


HEROIN DEATHS BY AGE

BREAKDOWN BY FIVE-YEAR AGE GROUPS, FOR 1976-77.



COMPARISON OF AVERAGE AGES, 1966-67 TO 1976-77



GOALS AND PLANNING

Training is a major objective. Our investigators (with the awesome responsibility of investigating death to determine crime, suicide or health hazard) receive no formal training. They have been repeatedly kept from Civil Service Classifications that would give them benefits including outside training. As a direct result of this philosophy they are now among the lowest paid investigators in the State of California - if not the lowest. The City does not even furnish them with such small items as flashlight batteries, or rain coats (cut out of the budget). Obviously, training, adequate working conditions and equipment are major goals for the next year.

We are starting a training program this year to give our personnel, as well as those of the district attorneys and public defender's office specific knowledge to investigate and try the various criminal matters in this County on the basis of the real facts of the case as they can be realistically determined for the benefit of all involved. It is hoped that in the future administration will accept that not to train responsible individuals is a poor and sometimes costly management policy.

Much of our instrumentation needs updating badly, both to give us the equipment capability we should have to handle the work being done; and to give the greater capability needed to answer the important, frequently difficult, unusual and complex questions relating to death investigation.

We do have one abundance. That is, dedicated people with great feeling and loyalty to this office. People with sympathy and understanding who work many times without pay or adequate compensation to help the living. We have been able to add one full time forensic pathologist and need to add another in order to do the quality of work needed for our case load. Our forensic consultants are a valuable addition.

GOALS AND PLANNING

The deficiencies and shortcomings of a department are seldom apparent in an annual report. Suffice it to say that there are many areas of badly needed change in this office. The majority require money. There are several ways of bringing money and staff into the office without increasing the burden on the taxpayers. Many of these are made difficult to impossible by county generated "red-tape". In others, money generated by the office goes into city "coffers" without return to improve service or equipment. As an example, it has been conclusively shown that a copy machine in this office would more than offset its costs. This item has been repeatedly cut from the budget, necessitating one deputy having to be taken off his regular work to carry records to another building where he stands in line to make copies. Sale of these copies returns \$7,000 to the city; nothing to the department.

DEVELOPMENT, TRAINING AND RESEARCH

The potential for basic research in many fields to improve the understanding and quality of medical and community care is very high in this office. Not to teach pathologists or clinicians; not improve death investigation or identify health hazards essentially constitutes a "crime against nature". Nevertheless, our potential is largely unused, poorly managed and largely undeveloped. This is very unfortunate, because teaching grants alone could improve the quality of work we do, improve our capabilities and reduce the costs to the taxpayers.

Among current developments are the following:

DIASTER PLAN

In 1972, the National Oceanic and Atmospheric Administration completed a study for the San Francisco Office of Emergency Preparedness. Their report, "A Study of Earthquake Losses in the San Francisco Bay Area", is a 220 page highly detailed projection of what might happen should another major seismic disturbance occur as it did in 1906.

In 1975, the San Francisco Department of Planning published a "Community Safety Plan", dealing with seismic and other safety elements of a total "Comprehensive Plan". Both texts provide a rich source of

DISASTER PLAN (Cont'd)

factual information on emergency program, statistical data, and geographical and structural studies in evaluating the emergency safety status of San Francisco. Based on this most recent information, the Medical Examiner-Coroner's Office is continually updating the Disaster Response Plan. This plan and our disaster equipment is largely completed, and now we are starting to train our people on how to use it.

RESEARCH

"Drug Abuse in Criminal Deaths", an LEAA Grant with a yearly \$30,000 budget, ended. Using professional toxicologists, this grant provided a wealth of information concerning the incidence of drugs in homicide deaths in San Francisco. Plans are underway for initiating a new grant as an off-shoot of this one when it expires. Its results directly relate to the judicial process in this county. This grant was renewed, with more emphasis on serology.

Further research is planned in the area of the Sudden Infant Death Syndrome. The National Institute of Health, Department of Health, Education and Welfare, is in the process of funding a number of research projects in this main cause of deaths in infants between one month of age and one year claiming 10,000 lives every year in the United States.

TRAINING

A comprehensive in-service Training Manual for the Coroner's Investigators has just been completed. It includes chapters on every facet of the prescribed duties of the investigators, and marks the beginning of an extensive effort to upgrade the quality of Coroner's personnel without the benefit of training funds.

A videotape machine would provide the project media for the next area of emphasis which is specialized and advanced training. Plans include such areas as management and supervisory training for the staff and classes in the latest medical techniques for the investigators. A formal training program is planned for classroom training of the personnel involved in the investigative and judicial process associated with these cases.

PARTIAL LIST OF LECTURES, SEMINARS AND DISCUSSIONS

Emergency Medical Services	5
Naval Regional Medical Center	4
San Francisco Dental Society	1
Trauma Society	1
American Academy of Forensic Society, San Diego	1
California Society Pathology-Forensic Committee	4
State Department of Health - S.I.D.S.	5
Emergency Medical Care-Committee	10
Hastings Law School	1
California Coroner's Association	2
University of California at Davis	2
San Francisco College of Mortuary Sciences	2
University of California Medical Students	2
Rape Investigation	6
U.C. Pediatrics, San Francisco General Hospital	2
Northern California Council on Sudden Infant Death	6
National Homicide Conference	1

SOCIETIES OR COMMITTEES

American Trauma Society, California Chapter, Board of Directors

Northern California Chapter-National Foundation Sudden Infant Death Medical Advisor

California Coroner's Association-Committee Member, Forensic Pathology

Naval Regional Medical Center, Oakland-Consultant Forensic Pathology

American Academy of Forensic Sciences-Fellow

National Association of Medical Examiners

CHIEF MEDICAL EXAMINER - CORONER

San Francisco, California



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A N N U A L R E P O R T

July 1, 1977 - June 30, 1978

BOYD G. STEPHENS, M.D.
Chief Medical Examiner-Coroner
7th & Bryant Streets
San Francisco, CA 94103



September 11, 1978

Honorable George R Moscone, Mayor
and Members of the Board of Supervisors
City Hall - Civic Center
San Francisco, CA 94102

Dear Mr. Mayor and Honorable Supervisors:

The public concept of death, along with its fears and misconceptions, is changing slowly. However, most people do not understand what we do and would really not wish to find out--until they have a family tragedy in which we have to answer to the courts or the family as to the cause and manner of death. Only at that time do they begin to realize our function and impact on the state of the community.

Because we do not control salaries or hiring policy, the operating policy of the office is changing slightly. We need several more full time specialists to improve our capabilities. Because of the complexities involved, our instrumentation requires improvement. Our people need training and equipment to do their jobs well. These goals can only be achieved with the continued support of county government.

A potential plan to improve department revenues has been discussed previously. Obviously, costs to the taxpayer must be kept low, but in much of our work, to do an incomplete investigation costs the taxpayer more in the long run and results in false economy. This department will always be largely dependent on tax revenues.

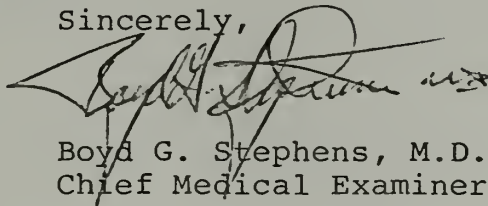
The judicial process is requiring more detailed investigation and more accurate reporting of those investigative findings. Criminal trials require more exacting information for presentation to the juries. This workload requires improved capabilities.

With the increased limitations engendered by Proposition 13, it is more important that the department be given immediate support and as much help as possible through county funding with a minimum amount of bureaucratic obstruction and delays.

Hon. George R. Moscone, Mayor
and Members, Board of Supervisors
Page 2
September 11, 1978

The value of this office to the community is directly related to the quality of forensic work accomplished. With this annual report, the office completes one more segment of its work and looks forward to helping the community with the next one.

Sincerely,

A handwritten signature in dark ink, appearing to read "Boyd G. Stephens", with a large, stylized flourish extending to the left.

Boyd G. Stephens, M.D.
Chief Medical Examiner-Coroner

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INTRODUCTION

Most people only know that we handle dead bodies. Many think that we merely pick them up, and that the police or fire department identifies the person and determines how he or she died. In fact, in some communities, that is partly true. Here, however, we operate as a separate office, directly under the jurisdiction of the Chief Administrative Officer. We are responsible both historically and legally under California State Law for the determination of cause and manner of death, as well as who died, where and, if possible, contacting the next of kin.

Sudden, unexpected or traumatic deaths are expensive to the taxpayers. Besides the frequently needless loss of life, the investigation and judicial process costs are considerable. Our estimate of \$6,000 per day for a superior court trial may be related to the fact that if data is unclear or incompletely prepared, hours and days may be spent while attorneys argue the case, rather than the facts. Therefore, we feel the proper training and investigative studies is sound financial management, as well as important to the proper outcome of the case.

Presenting the medical data as an expert witness is not always a simple affair. The victim may be badly damaged or in some other way be aesthetically unpleasant to examine. If, however, the innocent and the guilty are to be clearly separated, then the wounds, natural disease and artifacts must be clearly defined or described so that the jury can try the facts of the case. No one's liberty should be taken, nor should the guilty be set free because the scene, victim or scientific information was not collected and completely interpreted, or even lost through ignorance.

The forensic scientist does not work alone. He or she depends on close association with police, public health, research scientist and judicial specialist. This chain of responsibility, if it is to serve justice, must have every link strong and unbreakable. A criminal charge should be based on facts, and the medical-legal aspects of the case must be accurately and unbiasedly prepared and interpreted for the courts.

Since this office is responsible for determining the cause and manner of all deaths other than natural, our investigation must be as complete and accurate as possible. It must be rapid but exacting. A determination of death by suicide, homicide or accident must be supportable beyond a reasonable doubt. Such decisions have far reaching ramifications.

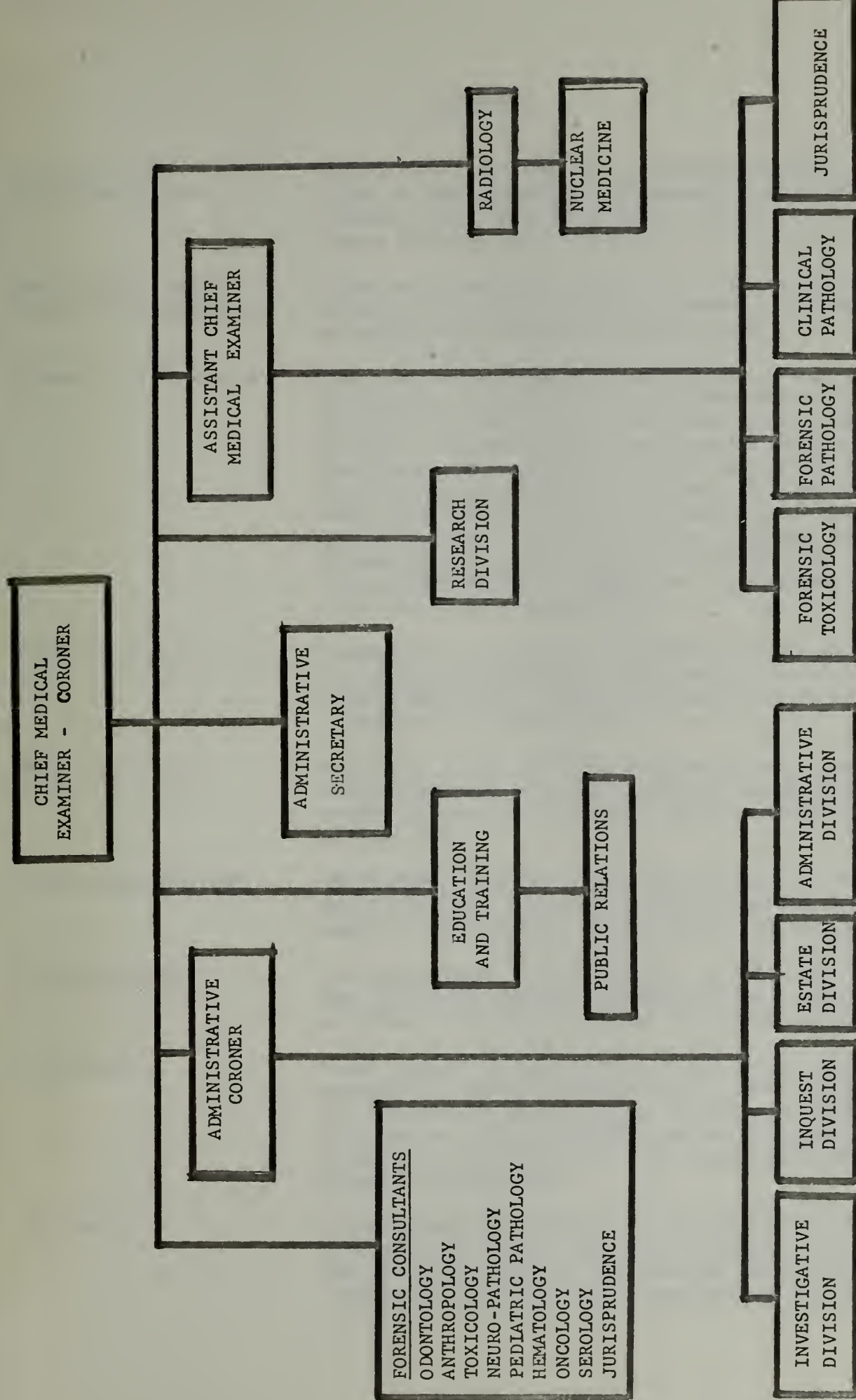
A city like San Francisco should have a really "top-notch" Medical Examiner's office. To do so improves and benefits the living in many ways directly, and in many more by indirect or sometimes intangible means.

DEPARTMENTAL COSTS

1977-78

Total Budget	\$ 773,151
Transfers to the Controller, Health and Retirement	116,302
NET BUDGET (all other costs)	656,849
 Total Cases Reported	 3,904
Cost per case investigated	\$ 168
 Revenues (sales of records, public auctions)	 \$ 11,883
 Total Costs Ad Valorum Taxes/ Per Case Investigated	 \$ 165

As indicated elsewhere, this includes all investigative, administrative, scientific and expert witness costs to the county.



GLOSSARY

ALKALOID OF MORPHINE GROUP	Typically referred to as morphine type alkaloid, this is the chemical substance found in body fluids after the injection of heroin or other drugs derived from opium.
TOXICOLOGY NOT VALID OR ELIMINATED	This term indicates that the deceased lived long enough after the injury to have eliminated some or all toxic agents from the body.
FORENSIC PATHOLOGY	The specialty field of medicine involving the application of medical and pathology principles in determining the cause and manner of sudden, unexpected, and medically unattended deaths. This includes the type and nature of injury, public health hazard, type or nature of homicide weapon, the relation of injury to death and interpreting other factors for the courts. These data are prepared and presented to the judicial system or for public health interests in keeping with the best available knowledge.
MODE OF DEATH	Indicates the manner of death, such as natural, accident, suicide or homicide, and is to be distinguished from cause of death which is purely a medical determination.
MODE EQUIVOCAL	With the cause of death determined, investigative data does not clearly differentiate between two modes of death, although some evidence supports either one.
MODE UNDETERMINED	With the cause of death determined, investigative data does not clearly support one of two possible modes, and either one is possible without prejudice.
MODE UNKNOWN	Circumstances insufficient to indicate between two possible modes, as when only bones are found, or when no medical cause of death is determined.
PATHOLOGY	That branch of medicine which deals with the essential nature of disease, especially in the structural or functional changes in tissues, organs or systems of the body causing disease. It involves the diagnosis of disease by microscopic or chemical analysis.
SEROLOGY	That branch of pathology that deals with the analysis of blood and body fluids. Blood types for identification, exclusion of a suspect or judicial purposes are examples of the use in this office.

GLOSSARY

TOXICOLOGY

The scientific study of poisons, their detection, actions and treatment. The relationship of drug levels to emotional or personality change, behavioral or reasoning ability are frequent decisions based on this data.

MEDICAL EXAMINER

A physician specifically trained in forensic pathology who is responsible for investigating and determining the cause and manner of sudden or unexpected death.

AUTOPSY

A scientific dissection of the human body to determine the cause and nature of death in order to detect public health hazards, determine the method or type of death in homicides and improve the level of medical care in the community. In some cases, showing that no injury or wrongdoing was present is of great emotional and stabilizing value to the family.

FISCAL YEAR 1977-78

Total Deaths in County	7,439
Total Deaths Reported to Coroner	3,904
Cases Reported, Investigated and Cleared by the Coroner for Physician's Signature	1,877
Coroner's Cases	2,027
% Reported to Coroner	52.3%
% County Deaths Having Coroner's Autopsies	27.2%
Cases Accepted by Coroner	
1. Natural Deaths	1,259 (62%)
2. Accidents	352
3. Suicides	194
4. Homicides	145
5. Mode Equivocal	51
6. Cause Unknown	8
7. Cause Undetermined	18
Autopsies Performed	2,027
Autopsy Index	100%
Burials Authorized by Coroner	
1. Indigents & Fetuses buried by City	135
2. Veterans Buried by Funeral Homes (Rotation)	25
3. Cases Buried by Funeral Homes with Public Administrator Controlled Funds (Rotation)	27
Inquests held or depositions taken	60
Identification:	
1. Persons brought to Coroner's Office with insufficient identification	232
2. Persons subsequently identified by fingerprints, dental x-ray or other means	226
3. Persons buried as unidentified	6
4. Fingerprints taken and forwarded to F.B.I., C.I.I., or S.F.P.D.	1,956

MODE OF DEATH - YEARLY COMPARISON

	67-68	68-69	69-70	70-71	71-72	72-73	73-74	74-75	75-76	76-77	77-78
<u>ACCIDENTS</u>											
Motor Vehicle	102	129	112	105	113	122	82	89	105	75	81
Non-Vehicular	256	286	365	370	352	319	256	349	363	226	271
<u>SUICIDES</u>	237	246	281	263	206	227	220	224	195	233	194
<u>HOMICIDES</u>	83	141	129	107	110	94	137	126	151	149	145

MOTOR VEHICLE ACCIDENTS

1978													
1977		AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	TOTAL
JUL	3	4	11	3	3	9	9	6	7	10	9	7	81

INDUSTRIAL ACCIDENTS

1977-1978

Total Number of Industrial Accidents 5

MEANS

Struck by Object	1
Crushing	1
Falls	2
Electrocution	1

Sex

Male 5	Female 0
----------------	------------------

Alcohol Positive	1
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Alcohol Negative	4
------------------	---

Other drugs	0
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ACCIDENTS AT HOME

	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
Number	15	9	14	12	17	13	13	17	17	17	21	15	180
Male	10	5	9	8	11	8	6	9	12	9	11	9	107
Female	5	4	5	4	6	5	7	8	5	8	10	6	73
<u>MEANS</u>													
Food Bolus	1	0	0	0	1	0	0	0	1	1	1	0	5
Aspiration	0	2	1	2	0	1	0	0	0	2	2	0	10
Other	2	1	1	3	3	3	0	2	2	3	3	1	24
Burns in SF	1	1	0	1	2	2	3	1	2	2	6	0	21
Burns out- side SF	0	0	0	0	0	0	1	1	0	0	0	0	2
Gas/Carbon Monoxide	0	0	0	0	0	0	0	0	1	1	0	1	3
Fall	9	2	6	2	2	5	4	4	4	4	5	7	54
Poison	2	3	6	4	9	2	5	9	7	3	5	6	61

VIOLENT DEATHS

There were 2027 cases brought to the Coroner's Office and autopsied. Of these cases, 760 were determined to be due to violence, or that other trauma was involved.

<u>Mode</u>	<u>Total No.</u>	<u>% of Total Coroner's Cases</u>	<u>% of Total County Deaths (7439)</u>
ACCIDENT	352	17.4	4.7
Motor Vehicle	81	4.0	
At Home	180	8.8	
Away from Home	86	4.2	
Industrial	5	0.2	
SUCICIDE	194	9.6	2.4
HOMICIDE	145	7.2	1.9
EQUIVOCAL OR UNDETERMINED	69	3.4	0.9

ACCIDENTS AWAY FROM HOME

	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	TOTAL
TOTAL/MONTH	2	5	9	6	9	5	8	8	12	6	3	13	86
Male	2	4	7	7	7	5	5	4	9	5	3	11	66
Female	0	1	3	0	3	0	3	4	3	1	0	2	20
Alcohol	1	1	2	0	2	3	3	2	3	1	2	1	21
Other Drugs	0	2	1	2	2	1	1	1	3	1	1	0	15
Food Bolus	0	0	0	0	1	0	0	0	0	0	0	0	1
Aspiration	0	1	0	0	1	1	1	0	1	0	0	0	5
Drowning	1	1	1	0	0	0	1	0	3	1	0	0	7
Firearms	0	0	1	0	0	0	0	0	0	1	0	0	2
Auto/C.O.	0	0	0	0	0	1	0	1	1	0	0	0	3
Burns/S.F.	0	0	0	1	0	0	0	1	0	0	0	0	2
Burns Outside SF	1	0	0	0	0	0	0	0	0	0	0	0	1
Toxic Poison*	0	1	0	0	0	0	0	0	1	0	1	5	7
Fall	1	2	4	2	4	1	2	1	2	2	2	4	27
Other	0	0	3	3	3	2	4	5	4	2	0	4	30

*Includes drug deaths.

S U I C I D E

The determination of suicide as a manner of death represents the summation of scene investigation, including a review of psychological state, autopsy, pathology, toxicology and frequently, more investigation. To the best of our knowledge, this is the only office performing toxicology of multiple organs or body fluids routinely in order to evaluate the metabolic status of a drug or drugs.

Realizing the immense emotional effect on a family, the diagnosis of suicide is never made lightly, and always represents a decision made on the basis of data sufficient to defend that decision in a court of law, if necessary. Should these data be inconclusive, then the victim automatically gets the benefit of doubt.

Suicide takes a tremendous toll of our young people. The relative number jumping from the Golden Gate Bridge would not seem to warrant the publicity assigned them when compared to the need evident for help administered to individuals using other methods.

To help understand the problems, and hopefully aid in the reduction, this office has supported suicidiology research and prevention programs for many years. It is hoped that this work will help reduce this needless loss.

The majority of these deaths are situational reactions, and given proper momentary trained support, are potentially preventable.

SUICIDES

TOTAL NUMBER 1977-78 194

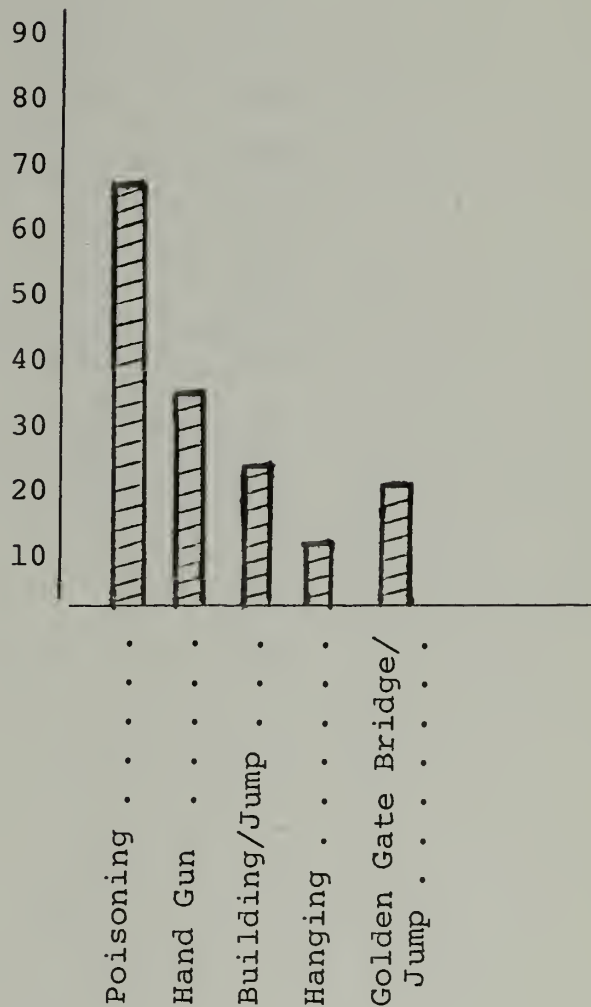
<u>METHOD</u>	<u>NUMBER</u>	
	<u>1976-77</u>	<u>1977-78</u>
Poisoning	79	65
Golden Gate Bridge	28	18
Bay Bridge	1	1
Auto/C.O.	1	6
Plastic Bag	6	3
Hanging	20	12
Cutting/Stab.	2	6
Hand Gun	49	35
Shoulder Gun	13	22
Jump/Building	30	23
Drowning	4	2
Other	0	1

SEX

Male	172	138
Female	61	56

RACE

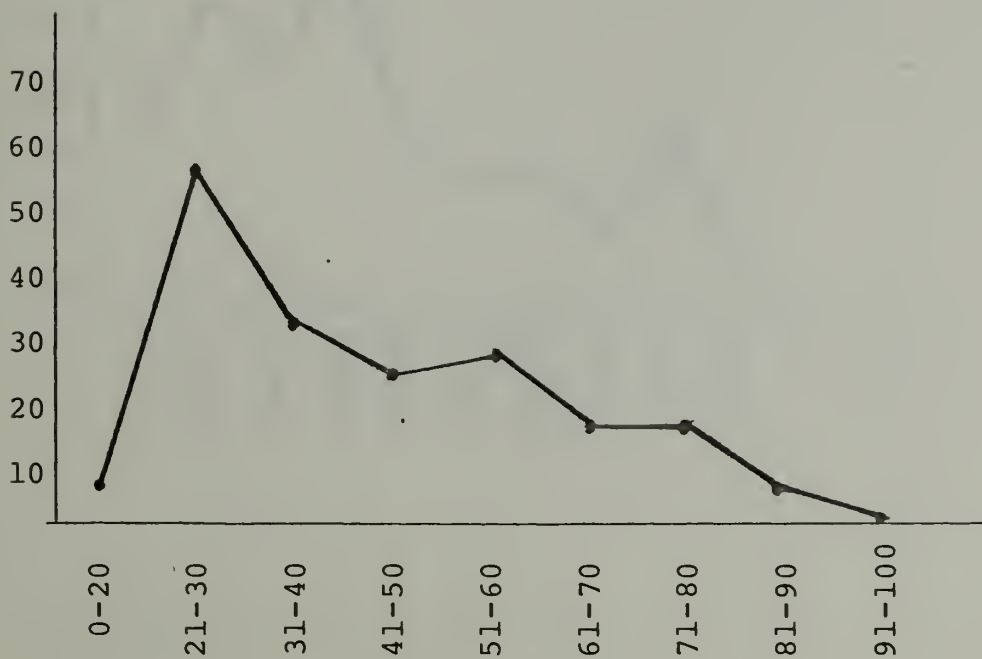
Caucasian	209	173
Negro	13	9
Chinese	7	9
Japanese	0	2
Filipino	2	1



SUICIDES

COMPARISON BY AGE

<u>AGE</u>	<u>1976-77</u>	<u>1977-78</u>
0 - 20	14	9
21 - 30	71	57
31 - 40	38	33
41 - 50	25	25
51 - 60	34	27
61 - 70	23	17
71 - 80	19	17
81 - 90	8	9
91 -100	1	0
Alcohol Present . .	52	42
Other Drugs	95	71



SUICIDES

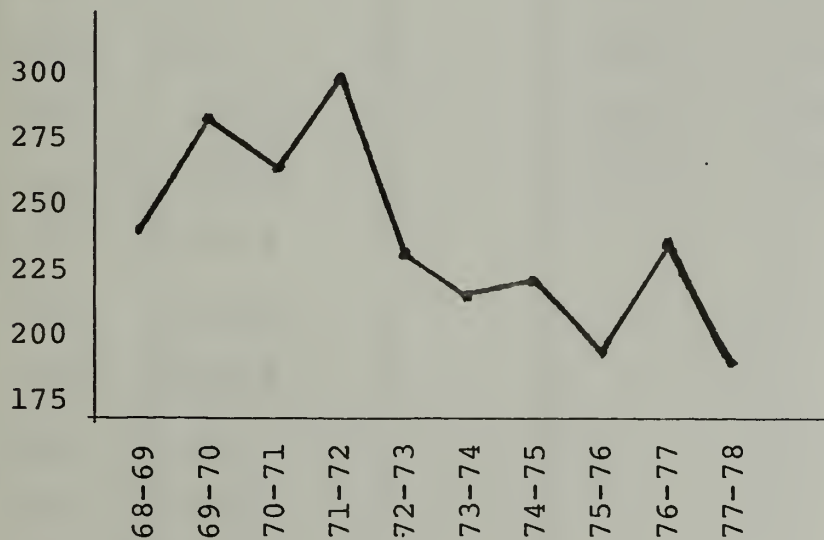
COMPARISON BY YEARS

Method	68-69	69-70	70-71	71-72	72-73	73-74	74-75	75-76	76-77	77-78
Poisoning**	102	114	75	74	69	51	76	56	79	65
Handguns	50	33	32	38	33	43	45	44	49	35
Golden Gate Bridge	10	14	20	28	16	21	14	19	28	18

** Predominant drug is barbiturate or barbiturate in combination with other compounds.

COMPARISON TOTAL SUICIDES BY YEAR

<u>68-69</u>	<u>69-70</u>	<u>70-71</u>	<u>71-72</u>	<u>72-73</u>	<u>73-74</u>	<u>74-75</u>	<u>75-76</u>	<u>76-77</u>	<u>77-78</u>
246	281	263	296	227	220	224	195	233	194



SAN FRANCISCO CORONER'S STATISTICS

YEAR	HOM.	SUIC.	SUICIDE TREND	YEAR	HOM.	SUIC.	SUICIDE TREND
1933	25	256	-----	59-60	34	202	204.2
1934	43	248	-----	60-61	47	222	209
1935	32	208	-----	61-62	44	212	214.2
1936	22	206	226.6	62-63	43	220	213.6
1937	30	215	221	63-64	44	215	215.8
1938	24	256	217.6	64-65	55	199	220.2
1939	26	220	211.6	65-66	59	233	223.6
1940	23	191	206.6	66-67	79	234	229.8
1941	29	176	182.2	67-68	74	237	246.2
1942	25	191	168	68-69	127	246	252.2
1943	34	133	179.8	69-70	118	281	264.6
1944	29	149	160	70-71	101	263	262.6
1945	31	150	159.8	71-72	102	296	257.4
1946	35	178	170.8	72-73	90	227	246
	45	189	183	73-74	131	220	232.4
1949	36	188	194	74-75	121	224	219.8
1950	34	210	196	75-76	152*	195	213.2
1951	42	205	191.2	76-77	149	233	
1952	31	188	192.8	77-78	145	194	
1953	32	165	187.8				
1954	46	196	188.8				
1955	48	185	192.8				
1956	50	210	199				
1957	46	208	197.6				
1958	27	196	201				
1959	39	189	203.4				

Homicide figures up to this point were received from the Police Department and were not always consistent with statistics kept by the Coroner's Office.

H O M I C I D E

Homicide is the killing of one human by another. The following data does not differentiate further into justification, accidental, or murder. Murder is the unlawful killing of a human being with malice. Such distinctions are the proper function of the Judicial System, and are not the responsibility or function of this office.

The proper evaluation and investigation of a homicide begins, naturally, at the scene. In the majority of cases, a member of this office determines if a death is a potential homicide (either the Coroner's Investigator, Administrative Coroner or Medical Examiner-Coroner). It has been well documented that if the determination is made by individuals inexperienced or untrained in death investigation, that their opinion will be wrong in 50% of the cases. They are very apt to miss the subtle homicide and are more inclined to miscall a natural or accidental death, resulting in false arrest, false accusations, needless expenditure of public funds, a waste of investigative time, and a delay in investigation of other deaths.

The very first requirement of our Judicial System pertaining to criminal trial, requires the identification of an individual and the presentation of evidence, usually by virtue of expert forensic testimony, of the cause of death or trauma associated with the death. The Medical Examiner-Coroner's office identifies the body, frequently relying on local police, CII or FBI fingerprints. Expert forensic testimony is given by the Forensic Pathologist from this office. In addition, the Forensic Toxicologist is frequently called upon to testify on the significance and effect of various drug levels, a matter of great concern when dealing with the concept of diminished capacity.

Any judicial system dealing with crimes involving death requires a well trained and well-equipped office that can and will interpret the forensic findings in an unbiased, fair manner. This investigation must be intense, accurate and rapid enough so that charges against one or more individuals may be pursued or dismissed without unfairly affecting their constitutional rights. That is the purpose of this office.

The Coroner's Investigator responds to the scene of death and determines if the Police Homicide Detail will be called. On those cases where homicide is obvious, the Coroner's Investigator responds as part of a team (other members include homicide inspectors, photographers, criminologists). This office is responsible for the body, identification, inquiry into circumstances, manner and means of death. (Gov. Code 27491.2). Besides the scene investigation, the Coroner's Investigator is responsible for property recovered, location and notification of next of kin and preparation of a written summary of their investigation.

In about one-third to one-half of the homicides, a forensic pathologist responds to the scene, aiding in the investigation. The autopsy including photography, may use fluoroscopy, X-rays, angiography or other techniques to establish and define the number, nature and severity of wounds, obtain evidence (i.e. bullets) and to prepare an official report. This report, including chemistry, serology and toxicology as described, is used as part of the prosecution or defense of the case in the formal judicial hearing.

Of minor, but becoming increasingly important, is the fact that because of our excellent and advanced medical facility, we are seeing more homicide and trauma cases transferred into the county for medical therapy. Should these individuals die, the autopsy and court testimony is done by this office.

HOMICIDES

Total Number Homicides 145

Males 118 Females 27

COMPARISON BY MONTH

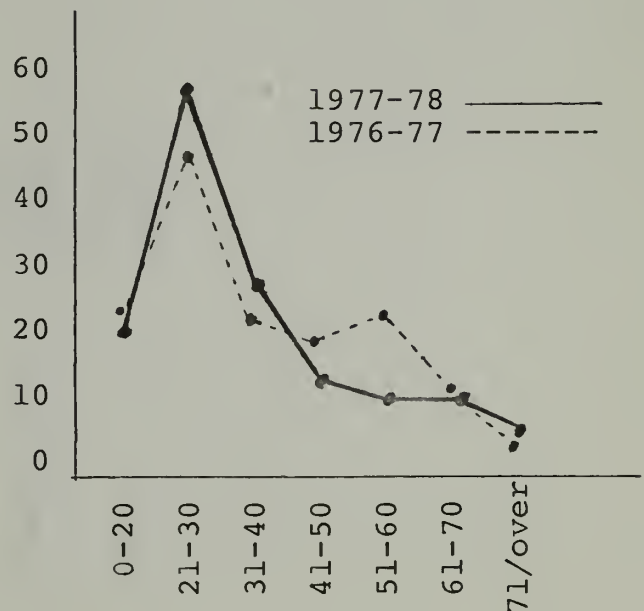
1977						1978						<u>TOTAL</u>
<u>JUL</u>	<u>AUG</u>	<u>SEP</u>	<u>OCT</u>	<u>NOV</u>	<u>DEC</u>	<u>JAN</u>	<u>FEB</u>	<u>MAR</u>	<u>APR</u>	<u>MAY</u>	<u>JUNE</u>	
16	10	19	8	7	10	7	10	13	19	14	12	145

COMPARISON BY RACE

Caucasion	65	American Indian	0
Negro	57	Filipino	3
Chinese	18	Other	0
Japanese	2		

COMPARISON BY AGE

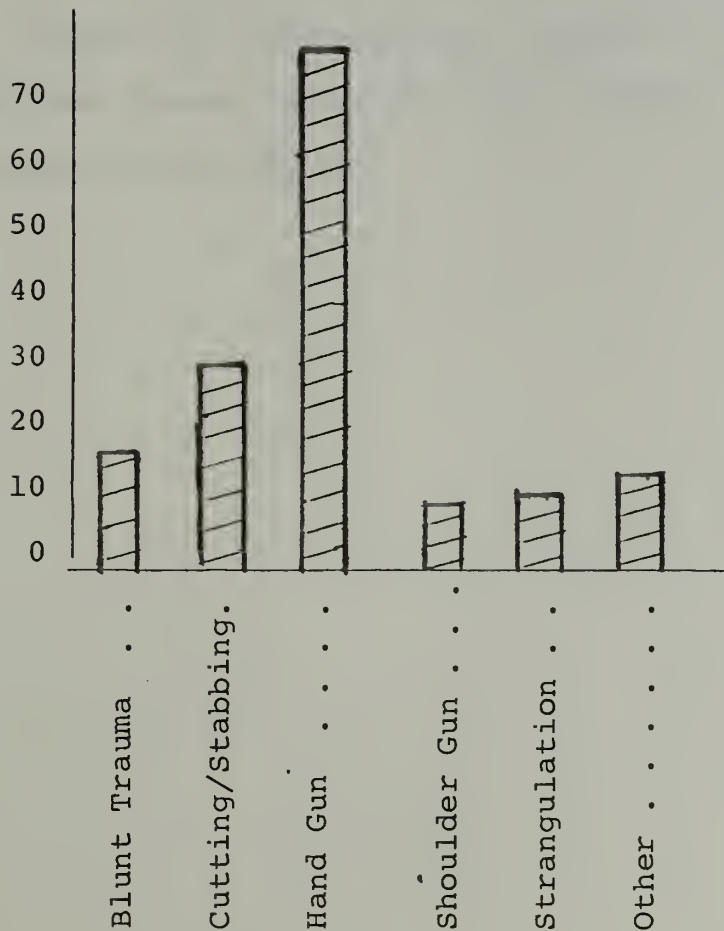
	<u>76-77</u>	<u>77-78</u>
0-20	23	20
21-30	45	59
31-40	22	28
41-50	21	12
51-60	22	10
61-70	11	10
71-over	5	6



H O M I C I D E

COMPARISON BY METHOD

Blunt Trauma	15
Cutting-Stabbing	29
Hand Gun	74
Shoulder Gun	8
Strangulation	9
Other	10



HOMICIDES

EQUIVOCAL HOMICIDE VS. ??

There were 11 deaths investigated jointly by the Chief Medical Examiner-Coroner's office and the Homicide Bureau where the mode was unresolved. There was sufficient trauma at the scene or necropsy findings were of such a nature as to leave doubt in the mind of the medical examiner as to whether the injuries were caused by another.

CASES INITIALLY INVESTIGATED AS HOMICIDES, BUT SHOWN TO BE OTHERWISE

There were in excess of 300 cases initially considered homicides. These were investigated, usually in conjunction with the Homicide Bureau, with the final results showing the death to be due to other causes.

MONTHLY COMPARISON

MANNER OF DEATH	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	TOTAL
Unknown	0	0	1	0	2	1	2	0	1	0	0	1	8
Undetermined	0	2	0	1	2	4	0	4	2	2	1	0	18
Equivocal	1	3	8	4	8	4	2	6	2	5	6	2	51
Suicide	17	21	18	24	16	18	13	14	17	9	15	12	194
Homicide	16	10	19	8	7	10	7	10	13	19	14	12	145
Industrial	1	0	1	0	0	0	0	1	0	1	0	1	5
Motor Vehicle	3	4	11	3	3	9	9	6	7	10	9	7	81
Accidents/Away	2	5	9	6	9	5	8	8	12	6	3	13	86
Accidents/Home	15	9	14	12	17	13	13	17	17	17	21	15	180

P A T H O L O G Y

In this department, the tissue and body fluid samples taken at autopsy are prepared for microscopic study, histo-chemically stained, or analyzed for chemical constituent. Cardiac pace-makers or other mechanical life support devices are examined for any defect. Smears or "wet-mounds" are examined for spermatozoa, bacteria or tuberculosis. Bacteriologic cultures may be taken, but if pathogens are grown, they are usually sent to the Department of Public Health (State or Local) for further identification. If indicated, "soft" x-rays or histo-chemical tests are done to establish entrance or exit gunshot wounds. Here, also, research on new techniques such as methods of obtaining fingerprints from the skin of a victim are developed.

YEAR	TOTAL CORONER'S CASES	CASES REFERRED TO PATHOLOGIST	NO. OF ORGANS SUBMITTED	NO. OF SECTIONS TAKEN	HISTO- PATHOLOGIC SLIDES MADE	SPECIAL STAINS**	BLOOD GROUP- INGS***	OTHER DETERMIN ATIONS***
1977								
JULY	160	99	465	1115	214	70	14	37
AUG	158	103	397	1127	203	59	16	45
SEPT	183	127	484	1355	268	44	20	73
OCT	166	119	414	1094	248	35	9	59
NOV	157	120	460	1426	288	48	11	38
DEC	173	101	347	1147	218	42	14	45
1978								
JAN	166	121	458	1496	243	28	11	40
FEB	156	124	531	1538	343	39	11	79
MAR	188	144	558	1471	293	33	15	87
APR	171	129	529	1596	318	39	16	59
MAY	181	137	534	1652	364	58	13	63
JUNE	165	127	509	1188	280	48	8	65
TOTALS	2024	1451	5686	16205	3280	541	158	690

*These figures do not reflect photography, forensic radiology or material prepared for-teaching forensic pathology

**Includes smears examined for bacteria and spermatozoa

***ABO and Anti Rh

****Blood, urine, water, evidence - for hematology, biochemistry, urinalysis, bacteriology, serology, "Sickledex", etc.

T O X I C O L O G Y

Toxicology is the science that deals with the detection and identification of poisons. The most common poisons in our community are prescriptions items. Illegal drugs (ones for which there is no known medical merit, and which are against federal law to possess), industrial compounds, gases and alcohol are the most common agents. In our work, however, any possible agent may be of importance in the death. It is necessary, therefore, not only to accurately detect and identify the agent or agents, but to precisely quantitate them so that their exact relationship to the death, if any, can be evaluated. This determination must be as precise and specific as scientifically possible, and it must be able to stand up to review by any other qualified laboratory in the nation.

As a routine part of our work, we determine the levels of drugs in two or more body "compartments", such as blood and stomach drug levels, or combinations of three compartments in order to answer the question of acute or chronic usage. This is of utmost importance in determining the time of ingestion, and therefore the intent of the ingestion--whether accident or suicide. Since the type and nature of the unidentified compound is so varied, so must the capabilities of this department be varied.

Considerable research comes from this department, some of which affects the labeling, and how drugs are identified in postmortem cases. A recent project determined the types and levels of drugs in both the victim and the suspect in certain serious crimes. This information was then available for the courts to help in the just determination of the innocence or guilt of the person charged with the crime.

TOXICOLOGY

July 1977 - June 1978

Incidence of various drugs or poisons found singly or in combination:

These are not necessarily the cause of death or even a contributing cause. These figures reflect toxic agents present in the body to any degree. Any one case may have more than one drug or poison present.

Acetaminophen	6	Hydromorphone (Dilaudid)	2
Acetone	5	Hydroxyzine	1
Alkaloid of morphine group	71	Imipramine (Tofranil)	2
Amitriptyline (Elavil)	12	Insulin	6
Amphetamine	3	Lithium	1
Barbiturates		Meprobamate	5
Amobarbital	12	Methadone	10
Pentobarbital	19	Methemoglobin	2
Phenobarbital	23	Methamphetamine	6
Secobarbital	33	Methaqualone (Quaalude)	3
Caffeine	4	Methylphenidate (Ritalin)	1
Carbon monoxide	25	Methylenedioxymphetamine	1
Chloral Hydrate (TCE)	7	Pentazocine	3
Chlordiazepoxide	2	Perphenazine	1
Chlorpromazine (Thorazine)	4	Phenacetin	4
Cholinesterase	1	Phencyclidine (PCP)	3
Cocaine	2	Phenmetrazine	1
Codeine	41	Phenothiazine	8
Cyanide	3	Phenytoin (Dilantin)	5
Desipramine	2	Propoxyphene (Darvon)	14
Diazepam (Valium)	64	Quinidine	1
Digoxin	5	Salicylates	18
Doxepin (Sinequan)	1	Theophylline	5
Ethchlorvynol (Placidyl)	3	Thioridazine (Mellaril)	2
Ethinamate (Valmid)	1	Trifluoperazine (Stelazine)	1
Ethylmorphine	1	Tripollidine	1
Flurazepam (Dalmane)	16		
Glutethimide (Doriden)	2		

Year/ Month	# Cases Referred to Toxicology	# Specimens Analyzed	# Separate Tests Performed	Alcohol		Barbiturates		General Tox. Screens
				Tested	Pos.	Tested	Pos.	
1977								
JUL	151	201	433	150	26	149	5	1
AUG	165	222	507	165	40	165	9	0
SEP	178	239	552	178	25	178	6	3
OCT	162	202	494	162	29	162	4	0
NOV	161	222	543	159	26	161	7	1
DEC	159	210	506	159	37	159	5	0
1978								
JAN	170	202	492	170	40	170	5	3
FEB	155	211	506	155	23	155	7	1
MAR	189	248	609	188	44	189	7	0
APR	159	224	539	159	24	159	6	3
MAY	164	217	509	167	30	164	6	5
JUN	164	208	522	167	37	164	7	0
TOTALS	1977	2606	6212	1979	381	1975	71	17

TOXICOLOGY SCREENS

Year/ Month	Sedative-Hypnotics		Narcotics		Benzodiazepines	
	<u>Tested</u>	<u>Pos.</u>	<u>Tested</u>	<u>Pos.</u>	<u>Tested</u>	<u>Pos.</u>
1977						
JUL	27	6	22	6	1	1
AUG	33	10	25	9	4	2
SEP	35	9	34	11	11	3
OCT	23	6	18	9	8	5
NOV	30	9	33	17	29	9
DEC	24	6	21	5	21	5
1978						
JAN	27	6	18	6	10	5
FEB	28	9	24	12	12	9
MAR	36	8	31	14	12	8
APR	37	8	31	9	20	8
MAY	33	8	19	4	27	12
JUN	22	4	19	10	18	8
<hr/>						
TOTALS	355	89	295	112	173	75

HEROIN DEATHS

Morphine-type alkaloid (heroin) deaths 18

Sex distribution - Male = 15 (83%)
 Female = 3 (17%)

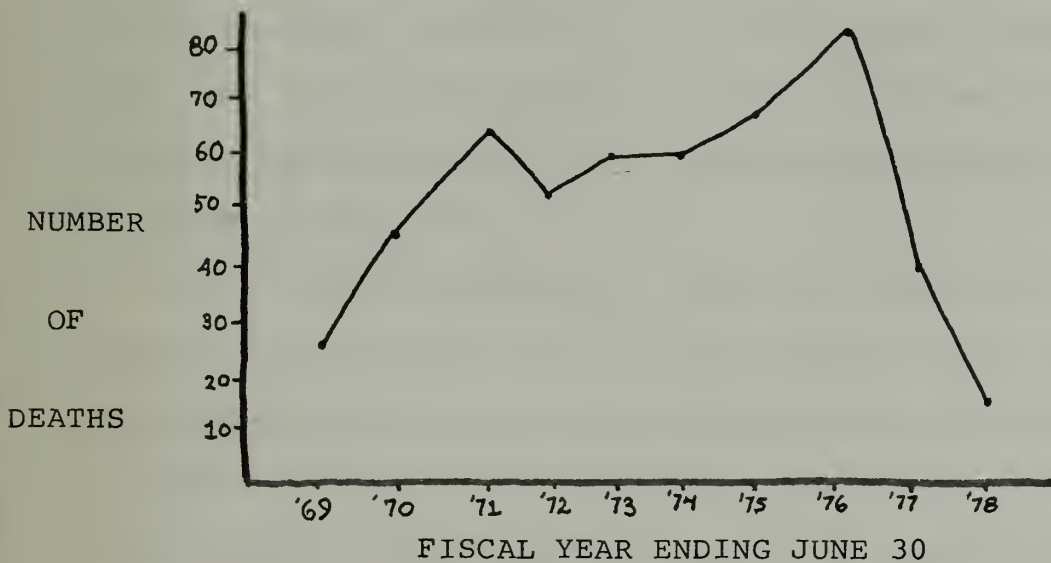
Race distribution - White = 11 (61%)
 Black = 7 (39%)

Age distribution

21-25	26-30	31-35	36-40	41-over
7	6	2	1	2

Mean age = 31.9 years

TEN YEAR COMPARISON OF HEROIN DEATHS



The data presented on the graph indicate a continuing decrease in heroin-related deaths for the second consecutive year.

GOALS AND PLANNING

Training is a major objective. Our investigators (with the awesome responsibility of investigating death to determine crime, suicide or health hazard) receive no formal training. They have been repeatedly kept from Civil Service Classifications that would give them benefits including outside training. As a direct result of this philosophy, they are now among the lowest paid investigators in the State of California--if not the lowest. The city does not even furnish them with such small items as flashlight batteries, or rain coats (cut out of the budget). Obviously, training, adequate working conditions and equipment are major goals for the next year.

Much of our instrumentation needs updating badly, both to give us the equipment capability we should have to handle the work being done; and to give the greater capability needed to answer the important, frequently difficult, unusual and complex questions relating to death investigation.

We do have one abundance. That is, dedicated people with great feeling and loyalty to this office--people with sympathy and understanding who work many times without pay or adequate compensation to help the living. We have been able to add one full time pathologist and need to add another in order to do the quality work needed for our case load. Our volunteer forensic consultants are a valuable aid.

A videotape machine would provide the project media for the next area of emphasis which is specialized and advanced training. Plans include such areas as management and supervisory training for

the staff and classes in the latest medical techniques for the investigators. A formal training program is planned for classroom training of the personnel involved in the investigative and judicial process associated with these cases.

DEVELOPMENT, TRAINING AND RESEARCH

The potential for basic research in many fields to improve the understanding and quality of medical and community care is very high in this office. Not to teach pathologists or clinicians, not improve death investigation or identify health hazards essentially constitutes a "crime against nature". Nevertheless, our potential is largely unused, poorly managed and largely undeveloped. This is very unfortunate, because teaching grants alone could improve the quality of work we do, improve our capabilities and reduce the costs to the taxpayers. Among current developments are the following:

Disaster Plan

In 1972, the National Oceanic and Atmospheric Administration completed a study for the San Francisco Office of Emergency Preparedness. Their report, "A Study of Earthquake Losses in the San Francisco Bay Area", is a 220-page, highly detailed projection of what might happen should another major seismic disturbance occur as it did in 1906.

In 1975, the San Francisco Department of Planning published a "Community Safety Plan", dealing with seismic and other safety elements of a total "Comprehensive Plan". Both tests provide a rich source of factual information on emergency programs, statistical data, and geographical and structural studies in evaluating the emergency safety status of San Francisco. Based on this most recent information, the Medical Examiner-Coroner's office is continually updating the Disaster Response Plan.

Research

Further research is planned in the area of the Sudden Infant Death Syndrome. The National Institute of Health, Department of Health, Education and Welfare, is in the process of funding

a number of research projects in this main cause of deaths in infants between one month of age and one year, claiming 10,000 lives every year in the United States.

PARTIAL LIST OF LECTURES, SEMINARS AND DISCUSSIONS

Emergency Medical Services	3
Naval Regional Medical Center	3
Letterman Army Hospital	2
San Francisco Dental Society	1
Trauma Society	8
American Academy of Forensic Science, St. Louis	1
California Society Pathology-Forensic Committee	4
State Department of Health - S.I.D.S.	3
San Francisco Public Health	2
Emergency Medical Care Committee	9
Hastings Law School	1
California Coroner's Association	2
University of California at Davis	2
San Francisco College of Mortuary Sciences	2
University of California Medical Students	6
Sexual Assault Investigation	6
U.C. Pediatrics, San Francisco General Hospital	2
Northern California Council on S.I.D.S.	3
National Homicide Conference	1

SOCIETIES OR COMMITTEES

American Trauma Society, California Chapter, Board of Directors
California Coroner's Association
Naval Regional Medical Center, Oakland-Consultant Forensic Pathology
American Academy of Forensic Sciences-Fellow
National Association of Medical Examiners
California Society of Pathologists, Committee Member, Forensic Pathology

CHIEF MEDICAL EXAMINER - CORONER

San Francisco, California



OCT 15 1979

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July 1, 1978 - June 30, 1979

BOYD G. STEPHENS, M.D.
Chief Medical Examiner-Coroner
7th & Bryant Streets
San Francisco, CA 94103

September 24, 1979

Honorable Diane Feinstein, Mayor
and Members of the Board of Supervisors
City Hall - Civic Center
San Francisco, California

Dear Ms. Mayor and Honorable Supervisors:

Although the public concept of death, along with its fears and misconceptions is slowly changing, most people do not understand what the Medical Examiner-Coroner's Office does, and most would not really wish to find out--until they have a family tragedy in which this office must answer to the courts or the family as to the cause and manner of death. Only at such a time do people begin to realize our function and impact on the state of the community.

Because this office does not control salaries or hiring policies for our personnel, the operating policy of this office is changing slightly. To improve our capabilities in all areas, several more full-time specialists are needed. Because of the complexities involved in the testing we perform, our instrumentation needs to be improved and up-dated. Our personnel need training and proper equipment to do their jobs well. These goals can only be achieved with the continued support of the county government.

A potential plan to improve department revenues has been discussed previously. Obviously, costs to the taxpayer must be kept as low as possible. However, in much of our work, performing an incomplete investigation costs the taxpayer more in the long run and results in false economy. This department will always be largely dependent on tax revenues.

The judicial process is requiring more detailed investigation and more accurate reporting of those investigative findings. Criminal trials require more exacting information for presentation to the juries. This increasing workload requires improved capabilities.

With the decreased county funding available under Proposition 13, the widening schism between City Hall and this department is becoming more evident. The fact that the average citizen knows more about the workings of the Medical Examiner's Office (from exposure to our work in courts, on the streets or from watching television) than does the average bureaucrat, bespeaks the bias that this department faces. With city funding so "low", it would appear logical to support those vital county functions necessary to the welfare, safety and protection of the citizens.

It would also appear logical that the bureaucratic maze regarding the application for and the management of state, federal and private grants and contracts would be relaxed so that it would be realistic for a department to seek, obtain and maintain grants and/or contracts.

Hon. Diane Feinstein, Mayor
and Members, Board of Supervisors
Page 2
September 24, 1979

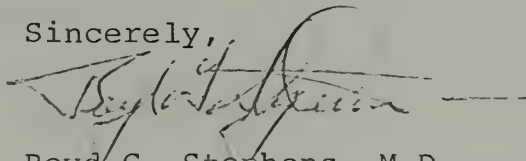
For the foreseeable future, grants and contracts represent the only possible source of equipment and steps toward advancement in the ever-increasing complexity of scientific investigation .

As it were, we now stand in the "pleistocene epoch" in this office in regard to the scientific potential available by instrumentation and other knowledge. The people, the taxpayers, suffer directly by this lack of capability which is related to the funding made available by the city. The level of funding frequently reflects the level of understanding of the most junior representative of the system as to the function that this office has in the judicial process. I would hope that, in the near future, the importance of a good quality Medical Examiner's Office, as well as its relation to the health and welfare of the citizens, will be appreciated by the people responsible, and appropriate funding will be forthcoming.

In addition, I would hope that the quantity of paperwork and repetition of effort will be curtailed so that more productive work can be done by the department for the department.

These are difficult times for this department and only by help from the city government can we survive to complete our task which is required by law, in an accurate and satisfactory manner.

Sincerely,

A handwritten signature in dark ink, appearing to read "Boyd G. Stephens", with a horizontal line extending to the right.

Boyd G. Stephens, M.D.
Chief Medical Examiner-Coroner

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INTRODUCTION

Most people only know that the Medical Examiner-Coroner's Office handles dead bodies. Many people think that we merely pick them up, and that the police or fire department identifies the person and determines how he or she died. In fact, in some communities, this is partly true. In San Francisco, however, this office operates separately, directly under the jurisdiction of the Chief Administrative Officer, and is responsible both historically and legally under California State Law for the determination of the cause and manner of death as well as identification of the deceased, determination of the place of death and, if possible, notification of the next of kin.

Sudden, unexpected or traumatic deaths are expensive to the taxpayer. In addition to the frequently needless loss of life, the investigation and judicial process costs are considerable. If data is incompletely prepared or unclear, hours and days may be spent in court while attorneys argue the case, rather than present the facts. Our estimate of \$6,000. per day for a Superior Court trial indicates the expenses which may be incurred with faulty or incomplete case preparation. We feel, therefore, that proper training and investigative studies are sound financial management, as well as important to the proper outcome of the case.

Presenting the medical data as an expert witness is not always a simple affair. The victim may have been badly mutilated or have been aesthetically unpleasant to examine for other reasons. If, however, the innocent and the guilty are to be differentiated, then the wounds, natural disease processes and artefacts must be clearly defined or described so the jury can try the facts of the case. No one's liberty should be taken, nor should the guilty be set free because the scene, victim or scientific information was not carefully examined and data collected and completely interpreted, or even lost through ignorance.

The forensic scientist does not work alone. He or she depends on close association with police, public health officials, research scientists and judicial specialists. This chain of responsibility, if it is to serve justice, must have every link strong and unbreakable. A criminal charge should be based on facts, and the medical-legal aspects of the case must be prepared and interpreted for the courts in an accurate and unbiased manner.

Since this office is responsible for determining the cause and manner of all deaths in this county other than natural, our investigation must be as complete and accurate as possible. It must be rapid but exacting. A determination of death by suicide, homicide or accident must be supportable beyond a reasonable doubt. Such decisions have far-reaching ramifications.

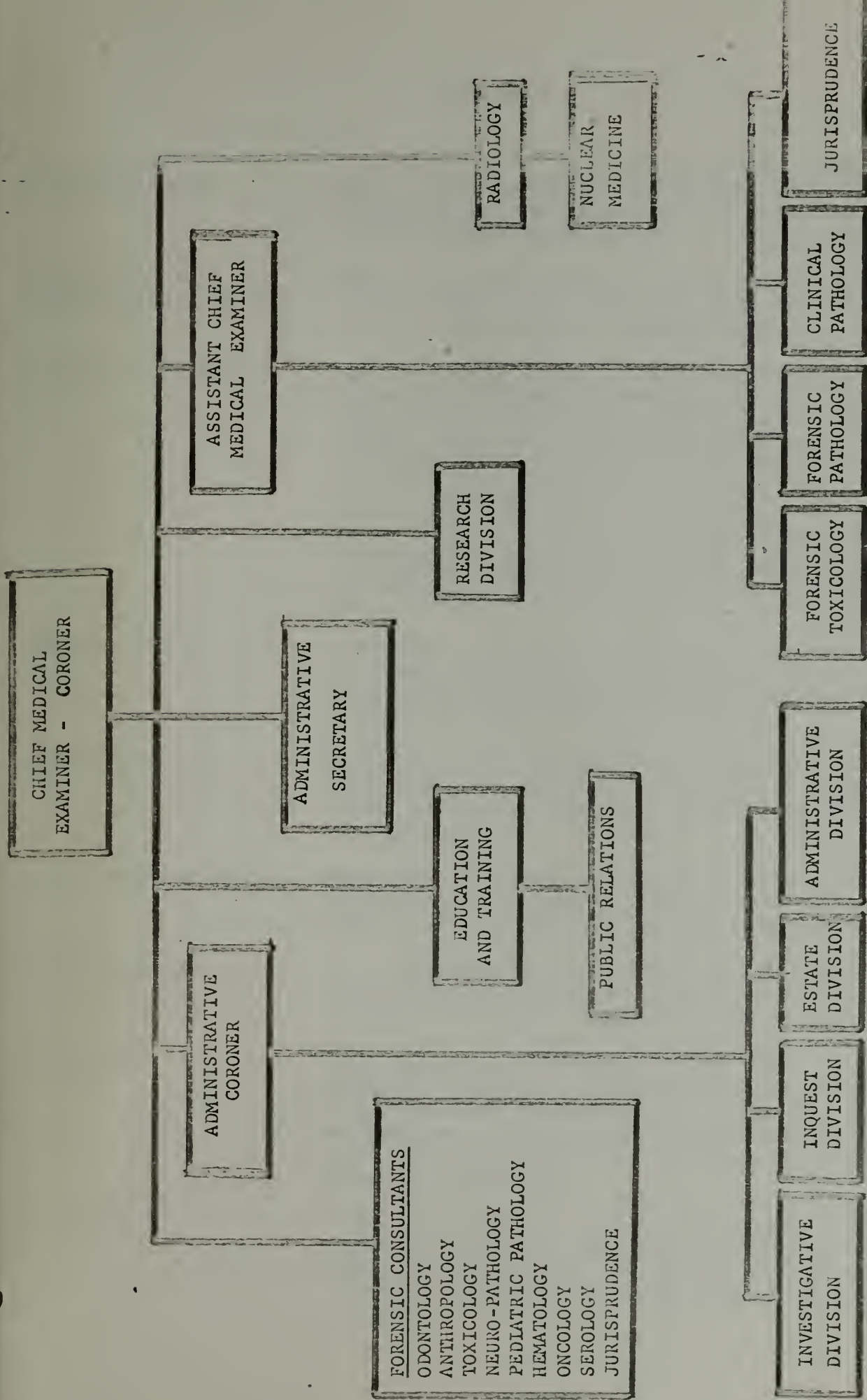
A city like San Francisco should have a really "top-notch" Medical Examiner's Office. To do so improves and benefits the living in many ways directly, and in many more ways by indirect or sometimes intangible means.

DEPARTMENTAL COSTS

1978-79

Total Budget	\$759,659.
Transfers to the Controller, Health and Retirement	117,622.
NET BUDGET (all other costs)	642,037.
 Total cases reported	 3,992
Cost per case investigated	\$ 161.
 Revenues (sales of records, public auctions)	 \$11,107.
Total Costs Ad Valorum Taxes Per Case Investigated	\$ 158.

As indicated elsewhere, this includes all investigative, administrative, scientific and expert witness costs to the county.



GLOSSARY

ALKALOID OF MORPHINE GROUP	Typically referred to as morphine type alkaloid, this is the chemical substance found in body fluids after the injection of heroin or other drugs derived from opium.
TOXICOLOGY NOT VALID OR ELIMINATED	This term indicates that the deceased lived long enough after the injury to have eliminated some or all toxic agents from the body.
FORENSIC PATHOLOGY	The specialty field of medicine involving the application of medical and pathology principles in determining the cause and manner of sudden, unexpected, and medically unattended deaths. This includes the type and nature of injury, public health hazard, type or nature of homicide weapon, the relation of injury to death and interpreting other factors for the courts. These data are prepared and presented to the judicial system or for public health interests in keeping with the best available knowledge.
MODE OF DEATH	Indicates the manner of death, such as natural, accident, suicide or homicide, and is to be distinguished from cause of death which is purely a medical determination.
MODE EQUIVOCAL	With the cause of death determined, investigative data does not clearly differentiate between two modes of death, although some evidence supports either one.
MODE UNDETERMINED	With the cause of death determined, investigative data does not clearly support one of two possible modes, and either one is possible without prejudice.
MODE UNKNOWN	Circumstances insufficient to indicate between two possible modes, as when only bones are found, or when no medical cause of death is determined.
PATHOLOGY	That branch of medicine which deals with the essential nature of disease, especially in the structural or functional changes in tissues, organs or systems of the body causing disease. It involves the diagnosis of disease by microscopic or chemical analysis.
SEROLOGY	That branch of pathology that deals with the analysis of blood and body fluids. Blood types for identification, exclusion of a suspect or judicial purposes are examples of the use in this office.

GLOSSARY

TOXICOLOGY

The scientific study of poisons, their detection, actions and treatment. The relationship of drug levels to emotional or personality change, behavioral or reasoning ability are frequent decisions based on this data.

MEDICAL EXAMINER

A physician specifically trained in forensic pathology who is responsible for investigating and determining the cause and manner of sudden or unexpected death.

AUTOPSY

A scientific dissection of the human body to determine the cause and nature of death in order to detect public health hazards, determine the method or type of death in homicides and improve the level of medical care in the community. In some cases, showing that no injury or wrongdoing was present is of great emotional and stabilizing value to the family.

FISCAL YEAR 1978-79

Total Deaths in County	8,106
Total Deaths Reported to Coroner	3,992
Cases Reported, Investigated and Cleared by the Coroner for Physician's Signature	2,040
Coroner's Cases	1,952

% Reported to Coroner	49.2
-----------------------	------

% County Deaths Having Coroner's Autopsies	24.1
---	------

Cases Accepted by Coroner

1. Natural Deaths	1,208 (61%)	
2. Accidents	237	
3. Suicides	233	
4. Homicides	103	
5. Mode Equivocal	32	
6. Cause Unknown	18	
7. Cause Undetermined	0	
8. Sudden Infant Death Syndrome	18	
Autopsies Performed		1,952

Autopsy Index	100%
---------------	------

Burials Authorized by Coroner

1. Indigents and Fetuses buried by City	112
2. Veterans buried by Funeral Homes (Rotation)	26
3. Cases buried by Funeral Homes with Public Administrator Controlled Funds (Rotation)	24

Inquests Held or Depositions Taken	54
------------------------------------	----

Identification

1. Persons brought to Coroner's Office with insufficient identification	214
2. Persons subsequently identified by fingerprints, dental X-rays or other means	203
3. Persons buried as unidentified	11
4. Fingerprints taken and forwarded to FBI, CII, or SFPD	1,887

MODE OF DEATH - YEARLY COMPARISON

	68-69	69-70	70-71	71-72	72-73	73-74	74-75	75-76	76-77	77-78	78-79
<u>ACCIDENTS</u>											
Motor Vehicle	129	112	105	113	122	82	89	105	75	81	94
Non-Vehicular	286	365	370	352	319	256	349	363	226	271	246
<u>SUICIDES</u>	246	281	263	206	227	220	224	195	233	194	233
<u>HOMICIDES</u>	141	129	107	110	94	137	126	151	149	145	103

MOTOR VEHICLE ACCIDENTS														
1978														
		AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	TOTAL	
1977	JUL	4	11	4	10	13	6	9	8	3	14	7	5	94

INDUSTRIAL ACCIDENTS

1978-1979

Total number of Industrial Accidents 9

MEANS

Traumatic injuries 3

Falls 4

Burns 2

SEX

Male . . . 8

Female . . . 1

ACCIDENTS INCLUDING INDUSTRIAL

	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	TOTAL
TOTAL/MONTH	19	19	21	23	14	23	20	24	23	14	19	27	246
Male	13	12	13	13	9	14	14	12	15	10	12	17	154
Female	6	7	8	10	5	9	6	12	8	4	7	10	92
Alcohol	0	0	0	0	0	0	0	0	1	0	0	1	2
Drugs	1	2	5	8	3	6	4	4	6	6	8	5	58
Food Bolus	0	0	1	1	0	1	0	2	0	0	0	0	5
Aspiration	0	0	0	1	1	2	0	1	0	0	0	2	7
Drowning	0	1	1	0	0	1	3	1	0	0	2	1	10
Firearms	0	1	0	0	0	0	0	0	1	0	0	2	4
Gas/Smoke/ CO Inhalation	0	0	3	0	0	1	2	0	0	0	0	0	6
Burns	2	3	1	1	2	3	2	6	5	2	2	6	35
Toxic Poison	0	0	0	1	0	0	0	0	0	1	1	1	4
Fall	16	10	9	9	6	7	6	7	8	5	2	7	92
Other	0	2	1	2	2	2	3	3	2	0	4	2	23

VIOLENT DEATHS

There were 1,952 cases brought to the Coroner's Office and autopsied. Of these cases, 708 were determined to be due to violence, or that other trauma was involved.

<u>Mode</u>	<u>Total No.</u>	<u>% of Total Coroner's Cases</u>	<u>% of Total County Deaths (8,106)</u>
ACCIDENT	340	17.4	4.1
Motor vehicle	94	4.8	
Non-vehicular	237	12.1	
Industrial	9	0.4	
SUICIDE	233	11.9	2.8
HOMICIDE	103	5.2	1.2
EQUIVOCAL OR UNDETERMINED	32	1.6	0.3

S U I C I D E

The determination of suicide as a manner of death represents the summation of scene investigation, including a review of psychological state, autopsy, pathology, toxicology and, frequently, more investigation. To the best of our knowledge, this is the only Coroner's Office performing toxicology on multiple organs and/or body fluids routinely in order to evaluate the metabolic status of a drug or drugs.

Realizing the immense emotional effect on a family, the diagnosis of suicide is never made lightly, and always represents a decision made on the basis of data sufficient to defend that decision in a court of law, if necessary. Should these data be inconclusive, the victim automatically gets the benefit of the doubt.

Suicide takes a tremendous toll of our young people. The relative number jumping from the Golden Gate Bridge would not seem to warrant the publicity assigned them as compared to the evident need for help for individuals using other methods.

To help understand the problem, and, hopefully, to aid in reduction of suicides, this office has supported suicidology research and prevention programs for many years. It is hoped that this work will help to reduce this needless loss.

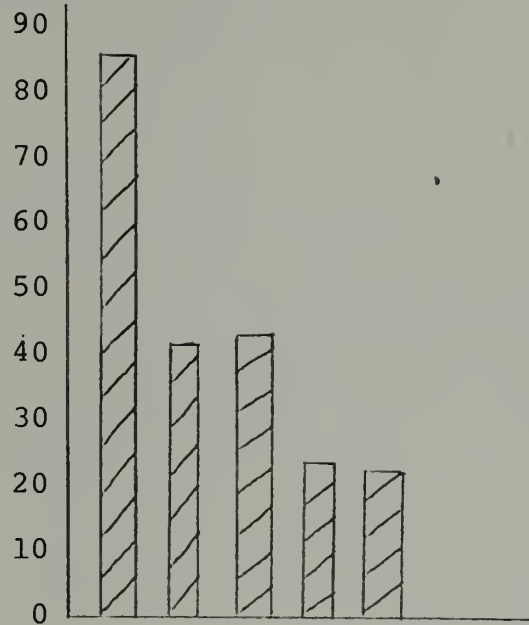
The majority of these deaths are situational reactions, and, given momentary trained support, are potentially preventable.

SUICIDES

TOTAL NUMBER 1978-79 233

METHOD	NUMBER	
	1977-78	1978-79

Poisoning	65	83
Jump/Golden Gate Bridge	18	19
Jump/Bay Bridge	1	0
Auto/CO	6	0
Plastic Bag	3	2
Hanging	12	21
Cutting/Stabbing	6	8
Hand Gun	35	40
Shotgun/rifle	22	10
Jump/Building	23	41
Drowning	2	4
Burning	0	3
Other	1	2



SEX

Male	138	158
Female	56	75

RACE

Caucasian	173	206
Negro	9	12
Asian	12	15

Poisoning
Handgun
Building/Jump
Hanging
Golden Gate Bridge/Jump

SUICIDES

COMPARISON BY AGE

<u>AGE</u>	<u>NUMBER</u>	
	<u>1977-78</u>	<u>1978-79</u>
0 - 20	9	6
21 - 30	57	65
31 - 40	33	36
41 - 50	25	34
51 - 60	27	36
61 - 70	17	25
71 - 80	17	18
81 - 90	9	11
91 - 100	0	2



SUICIDES

COMPARISON BY YEARS

Method	69-70	70-71	71-72	72-73	73-74	74-75	75-76	76-77	77-78	78-79
Poisoning	114	75	74	69	51	76	56	79	65	83
Handguns	33	32	38	33	43	45	44	49	35	40
Golden Gate Bridge	14	20	28	16	21	14	19	28	18	19

COMPARISON TOTAL SUICIDES BY YEAR

<u>69-70</u>	<u>70-71</u>	<u>71-72</u>	<u>72-73</u>	<u>73-74</u>	<u>74-75</u>	<u>75-76</u>	<u>76-77</u>	<u>77-78</u>	<u>78-79</u>
281	263	296	227	220	224	195	233	194	233

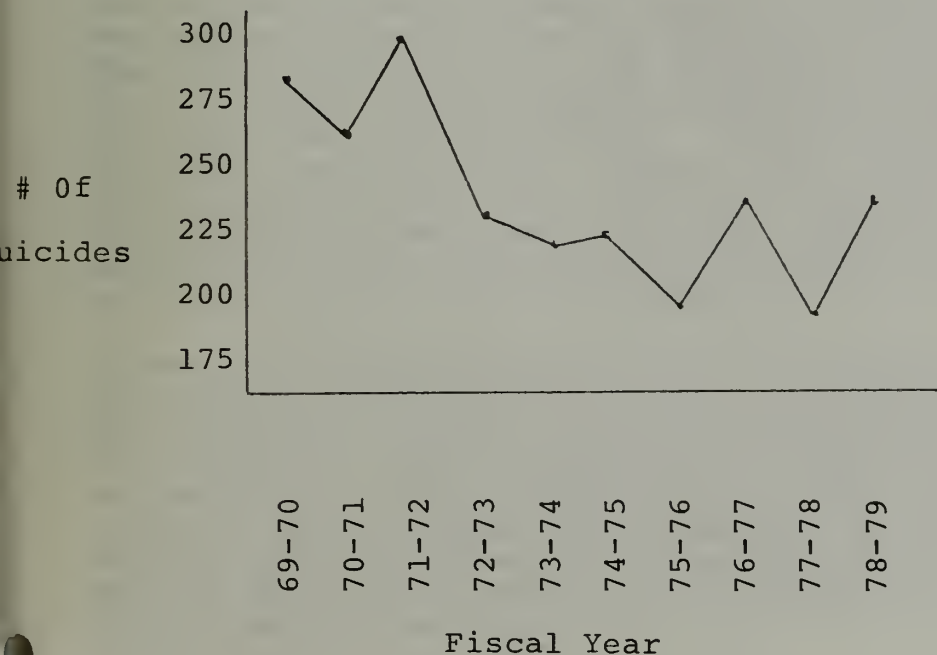


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Chapter XIX	1
Chapter XX	1
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Chapter XXVII	1
Chapter XXVIII	1
Chapter XXIX	1
Chapter XXX	1

THE UNIVERSITY OF CHICAGO

THE UNIVERSITY OF CHICAGO
CHICAGO, ILLINOIS

1911

H O M I C I D E

Homicide is the killing of one human by another. Murder is the unlawful killing of a human being with malice. The following data do not differentiate homicide as to whether it is justifiable, accidental or murder. Such distinctions are the proper function of the judicial system and are not the responsibility or function of this office.

Any judicial system dealing with crimes involving death requires a well-trained staff and well-equipped Medical Examiner-Coroner's Office that can and will interpret the forensic findings in an unbiased, fair manner. This investigation must be intense, accurate and rapid enough so that charges against one or more individuals may be pursued or dismissed without unfairly affecting their constitutional rights. That is the purpose of this office.

The proper evaluation and investigation of a homicide begins, naturally, at the scene. In the majority of cases, a member of this office (either the Coroner's Investigator, Administrative Coroner or Medical Examiner-Coroner), determines whether a death is a potential homicide. It has been well-documented that, if such a determination is made by an individual inexperienced or untrained in death investigation, his opinion will be wrong in 50% of the cases. Such a person is very apt to miss the subtle homicide and is more inclined to miscall a natural or accidental death a homicide, resulting in false arrest, false accusations, needless expenditure of public funds, waste of investigative time, and delay in the investigation of other deaths.

The Coroner's Investigator responds to the scene of death and determines whether the Police Homicide Detail will be called. When homicide is obvious, the Coroner's Investigator responds as part of a team (other members include homicide inspectors, photographers, criminologists). This office is responsible for the body, identification, inquiry into circumstances, manner and means of death (GOV. Code 27491.2). Besides the scene investigation, the Coroner's Investigator is responsible for recovered property, location and notification of next of kin and preparation of a written summary of his investigation.

In about one-third to one-half of the homicides, a forensic pathologist responds to the scene, aiding in the investigation. The subsequent autopsy, including photography, may also use fluoroscopy, X-ray, angiography and other techniques to establish and define the number, nature and severity of wounds, obtain evidence (i.e. bullets) and to prepare an official report. This report, including chemistry, serology and toxicology results is used as part of the prosecution or defense of the case in the formal judicial hearing.

The very first requirement of our judicial system pertaining to criminal trial, requires identification of an individual and presentation of evidence, usually by virtue of expert testimony, relative to the cause of death or trauma associated with the death. The Medical Examiner-Coroner's Office identified the body, frequently relying on local police, CII or FBI fingerprints. Expert forensic testimony is given by the Forensic Pathologist from this office. In addition, the Forensic Toxicologist is frequently called upon to testify on the significance and effect of various drug levels, a matter of great importance when dealing with the concept of diminished capacity.

Of minor, but increasing importance, is the fact that, because of our excellent and advanced medical facilities, we are seeing more homicide and trauma cases transferred into the county for medical therapy. Should these individuals die, the autopsy and court testimony is done by this office.

HOMICIDES

Total Number of Homicides 103

Males 89

Females 14

COMPARISON BY MONTH

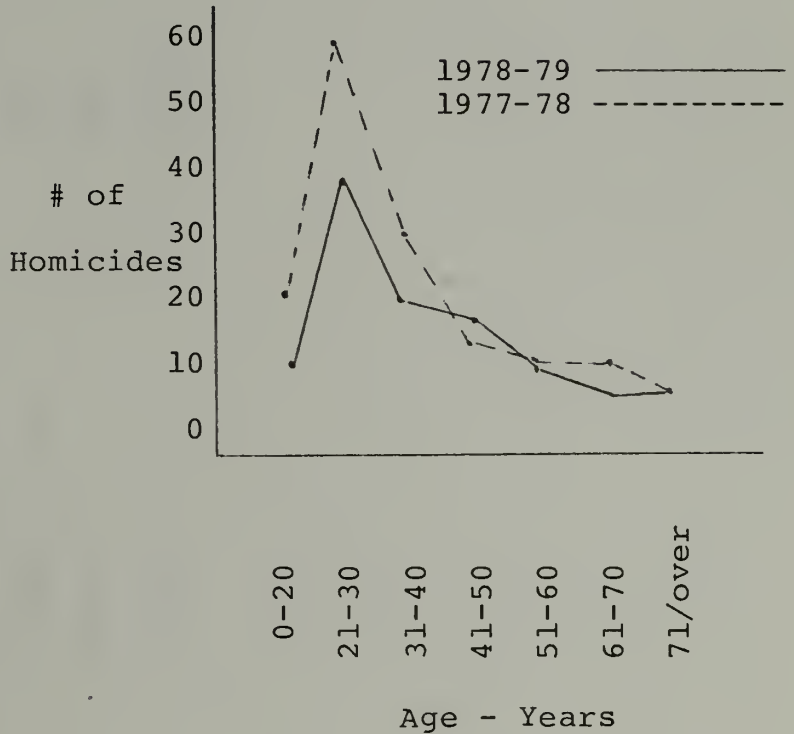
<u>JUL</u>	<u>AUG</u>	<u>SEP</u>	<u>OCT</u>	<u>NOV</u>	<u>DEC</u>	<u>JAN</u>	<u>FEB</u>	<u>MAR</u>	<u>APR</u>	<u>MAY</u>	<u>JUNE</u>	<u>TOTAL</u>
8	7	13	5	10	7	12	7	11	5	12	6	103

COMPARISON BY RACE

Caucasian	60	American Indian	3
Negro	29	Samoan	1
Asian	10		

COMPARISON BY AGE

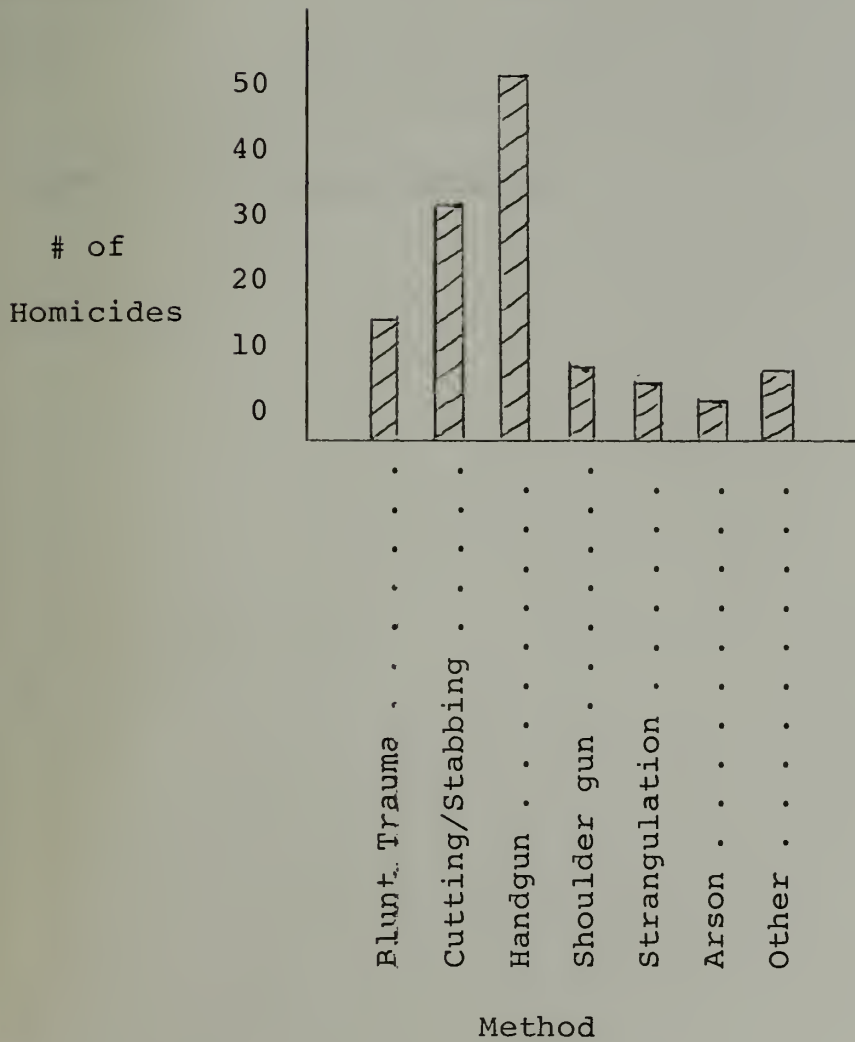
	<u>77-78</u>	<u>78-79</u>
0-20	20	10
21-30	59	38
31-40	28	19
41-50	12	16
51-60	10	9
61-70	10	5
71-over	6	6



H O M I C I D E

COMPARISON BY METHOD

Blunt Trauma	13
Cutting/Stabbing	30
Handgun	48
Shoulder gun	5
Strangulation	3
Arson	1
Other	3



MONTHLY COMPARISON

MANNER OF DEATH	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	TOTAL
Unknown	0	2	2	2	1	2	1	1	3	0	1	3	18
Equivocal	3	4	2	0	1	3	3	5	5	3	2	1	32
Suicide	18	12	24	15	18	22	17	20	32	15	17	23	233
Homicide	8	7	13	5	10	7	12	7	11	5	12	6	103
Industrial	2	1	1	2	0	0	0	1	0	0	2	0	9
Motor Vehicle	4	11	4	10	13	6	9	8	3	14	7	5	94
Accidents	17	18	20	21	14	23	20	23	23	14	17	27	237
SIDS*	1	2	2	2	1	1	3	2	1	1	1	1	18

* Sudden Infant Death Syndrome

P A T H O L O G Y

In this department, the tissue and body fluid samples taken at autopsy are prepared for microscopic study, histo-chemically stained, or analyzed for chemical constituents. Cardiac pacemakers or other mechanical life-support devices are examined for any defect. Smears or "wet-mounts" are examined for spermatozoa, bacteria or tuberculosis. Bacteriologic cultures may be taken, but if pathogens are grown, they are usually sent to the Department of Public Health (state or local) for further identification. If indicated, "soft" X-rays or histo-chemical tests are done to establish entrance or exit gunshot wounds. Here, also, research techniques such as methods of obtaining fingerprints from the skin of a victim, are developed.

1. The first part of the paper discusses the importance of the study of the history of the United States. It is argued that a knowledge of the past is essential for a full understanding of the present and for the development of a sound policy for the future. The author points out that the study of history is not only a means of satisfying our curiosity about the past, but also a means of training the mind and of developing the character.

2. The second part of the paper discusses the various methods of studying history. It is pointed out that there are many different ways of approaching the study of history, and that each has its own merits and its own limitations. The author suggests that the best way to study history is to use a combination of methods, and to approach the study with an open mind and a willingness to learn.

3. The third part of the paper discusses the various sources of historical information. It is pointed out that there are many different sources of information, and that each has its own strengths and its own weaknesses. The author suggests that the best way to use these sources is to compare them with one another, and to use them in a critical and thoughtful manner.

4. The fourth part of the paper discusses the various uses of history. It is pointed out that history can be used in many different ways, and that each use has its own value. The author suggests that the most important use of history is as a means of training the mind and of developing the character.

MONTHLY FIGURES

PATHOLOGY *

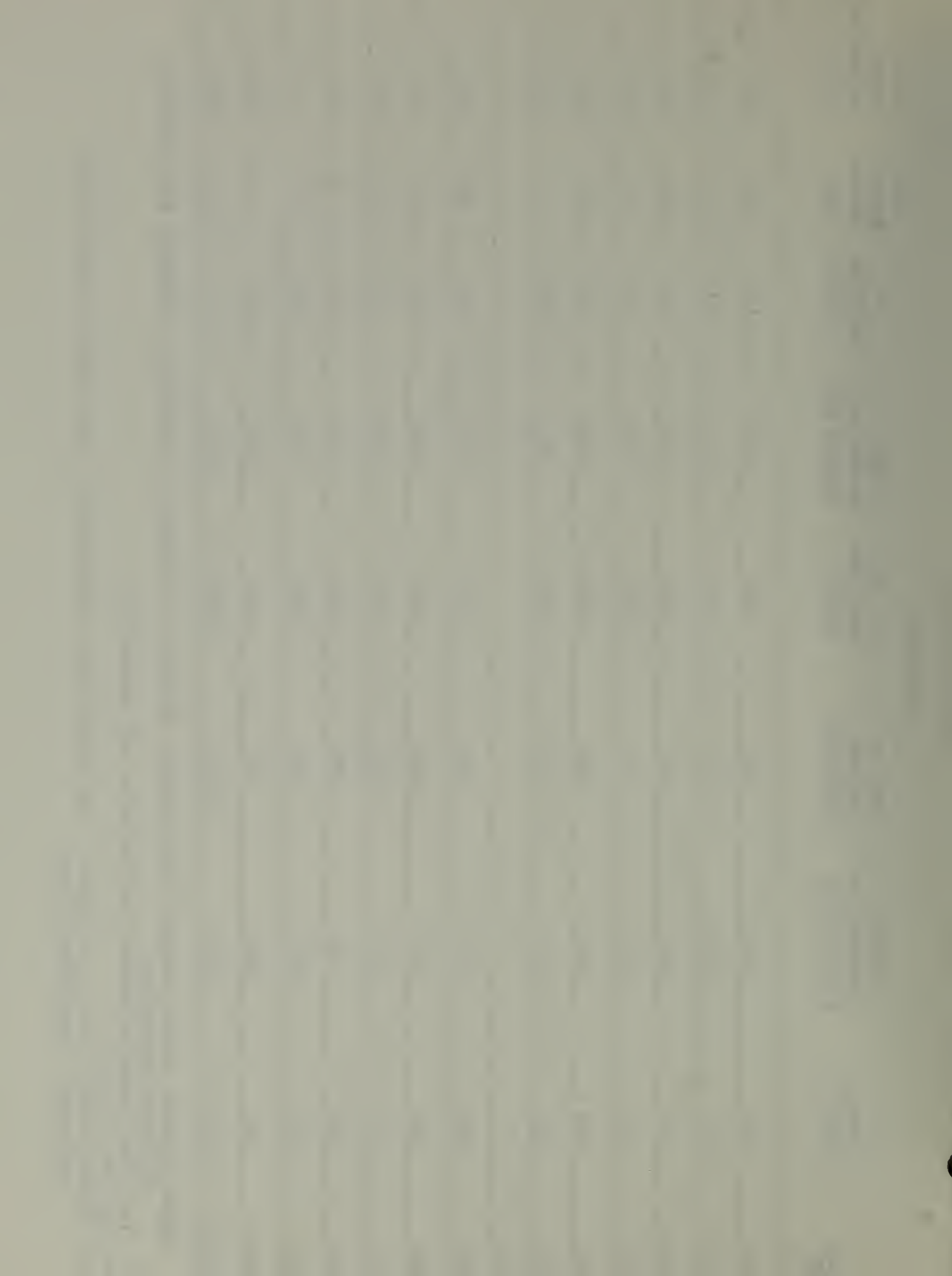
YEAR	TOTAL CORONER'S CASES	CASES REFERRED TO PATHOLOGIST	NO. OF ORGANS SUBMITTED	NO. OF SECTIONS TAKEN	HISTO- PATHOLOGIC SLIDES MADE	** SPECIAL STAINS	*** BLOOD GROUP- INGS	**** OTHER DETERMINA- TIONS
1978								
JULY	148	111	448	705	382	17	9	71
AUG	151	106	542	1493	277	27	15	60
SEPT	179	142	667	1326	295	23	14	66
OCT	155	110	694	1181	233	15	4	18
NOV	169	126	596	1334	281	13	10	39
DEC	211	125	750	1620	286	50	5	53
1979								
JAN	172	115	788	1278	253	20	10	36
FEB	161	118	938	1467	275	50	11	32
MAR	170	130	950	1840	308	23	15	108
APR	138	85	688	1222	202	12	3	54
MAY	141	101	749	1322	286	49	12	6
JUNE	157	104	717	1475	253	15	5	137
TOTALS	1952	1373	8527	16263	3331	314	113	680

* These figures do not reflect photography, forensic radiology, or material prepared for teaching forensic pathology

** Includes smears examined for bacteria and spermatozoa

*** ABO and Anti rH

**** Blood, urine, water, evidence - for hematology, biochemistry, urinalysis, bacteriology, serology, "Sickledex", etc.



T O X I C O L O G Y

Toxicology is the science that deals with the detection and identification of drugs and poisons. In our work, any possible agent may be of importance in a death. The most common poisons in our community are prescription items. Other common agents are illegal drugs (street drugs), industrial compounds, certain gases and alcohol.

It is necessary not only to accurately detect and identify the agent or agents involved in a case, but to precisely quantitate them so that their exact relationship to the death, if any, can be evaluated. This determination must be as precise and specific as scientifically possible, and it must be able to stand up to review by any other qualified laboratory in the nation.

As a routine part of our work, we determine the levels of drugs in two or more body "compartments", such as blood and stomach, or combinations of three compartments, in order to answer the question of acute or chronic drug usage. This is of utmost importance in determining the time of ingestion, and therefore the intent of the ingestion--whether accident or suicide. Since the types and natures of the unidentified compounds can be so varied, this must the capabilities of this department also be varied.

Extensive research is performed in this department, some of which deals with means of identifying unknown compounds in post-mortem samples. A current project is concerned with determining the types of drugs and their levels in both the victim and suspect in certain serious crimes. This information is then available for the courts to aid in the just determination of the innocence or guilt of the person charged with the crime.

TOXICOLOGY

July 1978 - June 1979

Incidence of various drugs or poisons found singly or in combination:

These are not necessarily the cause of death or even a contributing cause. These figures reflect toxic agents present in the body to any degree. Any one case may have more than one drug or poison present.

Acetaminophen	9	Haloperidol	1
Acetone	7	Hydrochlorothiazide	1
Alkaloid of morphine group	50	Imipramine (Tofranil)	4
Amitriptyline (Elavil)	11	Insulin	5
Amphetamine	7	Isopropyl alcohol	2
Barbiturates		Lithium	2
Amobarbital	19	Meprobamate	2
Butabarbital	1	Methadone	5
Itobarbital	1	Methamphetamine	9
Pentobarbital	23	Methapyrilene	1
Phenobarbital	32	Methaqualone (Quaalude)	5
Secobarbital	32	Methyl alcohol	1
Thiopental	1	Methylphenidate (Ritalin)	1
Butazolidin	3	Oxycodone	1
Caffeine	2	Pentazocine (Talwin)	2
Carbamazepine	1	Phenacetin	4
Carbon monoxide	24	Phencyclidine (PCP)	4
Chloral hydrate (TCE)	9	Phenothiazine	4
Chlordiazepoxide (Librium)	5	Phenytoin (Dilantin)	8
Cocaine	1	Primidone	1
Codeine	29	Propoxyphene (Darvon)	13
Cyanide	2	Propranolol	4
Desipramine	2	Quinine/Quinidine	3
Diazepam (Valium)	27	Salicylates	16
Digoxin	5	Theophylline	9
Diphenhydramine	1	Thioridazine (Mellaril)	7
Ethchlorvynol (Placidyl)	4	Triprollidine	1
Flurazepam (Dalmane)	16		
Glutethimide (Doriden)	1		

TOXICOLOGY

<u>Year/ Month</u>	<u>#Cases Referred to Toxicology</u>	<u>#Specimens Received</u>	<u>#Separate Tests Performed</u>	<u>Alcohol</u>		<u>Barbiturates</u>		<u>General Toxicology Screens</u>
				<u>Tested</u>	<u>Pos.</u>	<u>Tested</u>	<u>Pos.</u>	
1978								
JUL	147	635	431	146	25	147	1	1
AUG	154	672	453	154	29	154	2	0
SEP	167	735	567	167	40	167	9	0
OCT	166	723	566	166	29	166	5	1
NOV	171	752	577	171	32	171	9	0
DEC	195	827	588	195	29	195	10	0
1979								
JAN	180	791	650	180	35	180	7	1
FEB	168	717	618	165	29	165	11	0
MAR	170	729	731	167	38	168	9	0
APR	139	574	521	138	26	138	9	0
MAY	138	594	559	134	31	134	6	0
JUN	147	625	587	138	33	138	3	0
TOTALS	1942	8374	6848	1921	376	1923	81	3

TOXICOLOGY SCREENS

<u>Year/ Month</u>	<u>Sedative-Hypnotics</u>		<u>Narcotics</u>		<u>Benzodiazepines</u>		<u>Evidence</u>
	<u>Tested</u>	<u>Pos.</u>	<u>Tested</u>	<u>Pos.</u>	<u>Tested</u>	<u>Pos.</u>	<u>Tested</u>
1978							
JUL	18	2	16	3	11	5	1
AUG	22	4	16	3	13	3	1
SEP	34	9	24	9	30	4	0
OCT	34	7	23	11	27	4	1
NOV	36	11	32	5	32	0	1
DEC	32	10	18	5	22	0	0
1979							
JAN	36	7	29	7	30	4	2
FEB	38	14	20	6	24	4	0
MAR	38	13	26	13	31	8	0
APR	23	10	15	7	17	6	0
MAY	24	7	18	6	18	2	0
JUNE	29	6	25	8	20	5	2
TOTALS	364	100	262	83	275	45	8

HEROIN DEATHS

Morphine-type alkaloid (heroin) deaths 16

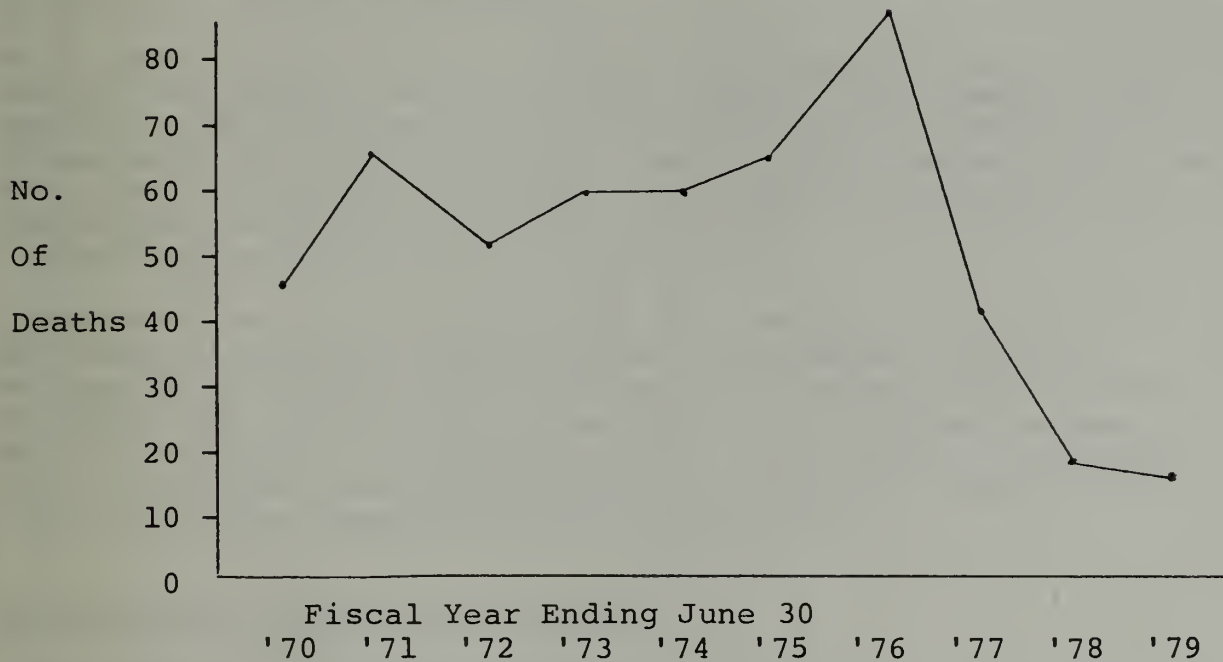
Sex distribution - Male 13 (81%)
Female 3 (19%)

Racial distribution - White 11 (69%)
Black 3 (19%)
Asian 2 (12%)

Age Distribution

<u>16-20</u>	<u>21-25</u>	<u>26-30</u>	<u>31-35</u>	<u>36-40</u>	<u>41-over</u>
1	2	7	1	4	1

TEN YEAR COMPARISON OF HEROIN DEATHS



The data presented on the graph indicate a continuing decrease in heroin-related deaths for the third consecutive year.

GOALS AND PLANNING

In this office, training is a major objective. Our investigators, who have the awesome responsibility of investigating death to determine crime, suicide or health hazard, receive no formal training. Repeatedly, they have been kept from Civil Service Classifications that would give them benefits including outside training. As a direct result of this philosophy, they are now among the lowest paid investigators in the State of California--if not the lowest. The City does not even furnish them with such small items as flashlight batteries or rain coats (cut out of the budget). Obviously, training, adequate working conditions and equipment are major goals for the next year.

Much of our instrumentation needs updating badly, both to give us the equipment capability we should have to handle the work being done; and to give the greater capability needed to answer the important, frequently difficult, unusual and complex questions relating to death investigation.

We do have one abundance. This is dedicated people with great feeling and loyalty to this office--people with sympathy and understanding who work many times without pay or adequate compensation to help the living. We have been able to add one full-time pathologist and need to add another in order to do the quality work needed for our case load. Our volunteer forensic consultants are a valuable aid.

A videotape machine would provide the project media for the next area of emphasis, specialized and advanced training. Management and supervisory training for the staff and classes in the latest medical techniques for the investigators are part of this plan. A formal program is planned to classroom training of the personnel involved in the investigative and judicial process associated with these cases.

DEVELOPMENT, TRAINING AND RESEARCH

The potential for basic research to improve the understanding and quality of medical and community care is very high in this office. Not to teach pathologists or clinicians, nor to improve death investigation or to identify health hazards, essentially constitutes a "crime against nature". Nevertheless, our potential is largely unused, poorly managed and largely undeveloped. This is very unfortunate, because teaching grants alone could improve the quality of the work we do, improve our capabilities and reduce the costs to the taxpayers. Among current developments are the following:

Disaster Plan

In 1972, the National Oceanic and Atmospheric Administration completed a study for the San Francisco Office of Emergency Preparedness. Their report, "A Study of Earthquake Losses

in the San Francisco Bay Area", is a 220-page, highly-detailed projection of what might happen should another major seismic disturbance occur as it did in 1906.

In 1975, the San Francisco Department of Planning published a "Community Safety Plan", dealing with seismic and other safety elements of a total "Comprehensive Plan". Both texts provide a rich source of factual information on emergency programs, statistical data, and geographical and structural studies in evaluating the emergency safety status of San Francisco. Based on this most recent information, the Medical Examiner-Coroner's Office is continually updating the Disaster Response Plan.

Research

The San Francisco Medical Examiner-Coroner's Office was awarded a one-year \$199,341. contract from the National Institutes of Child Health and Human Development, Department of Health, Education and Welfare, to set up and maintain a coordinating pathology laboratory as part of a nation-wide collaborative study on the Sudden Infant Death Syndrome (SIDS). The aim of this study is to determine specific diagnostic criteria and possibly establish risk factors for SIDS. This project, which was initiated on September 29, 1978, is to be refunded and will continue at least through June, 1980. During this time period, tissue specimens and autopsy reports from an estimated 1,100 infant death cases will be submitted to the laboratory from pathologists throughout the United States. From the tissues submitted on each case, a set of about 30 microscope slides are prepared in a standardized manner. The slide sets are then examined by three pathologists, experienced in SIDS diagnosis, who each submit an independent diagnosis. The diagnoses are examined and a final diagnosis will be established for each case. After statistical analysis of the data obtained at the Data Coordinating Center at the University of Washington, the autopsy reports, slide sets and pathologists' diagnoses will be archived in Seattle.

This office has also been the recipient of a federal grant, funded with LEAA monies, received through the Office of Criminal Justice Planning in Sacramento and the Mayor's Criminal Justice Council in San Francisco. This project, entitled "Forensic Serology and Toxicology Analysis", is currently in its second year of funding. Services provided by this project include serologic testing on specimens from juvenile rape and rape-homicide victims, toxicological testing on specimens from individuals accused of major felonies and expert court testimony concerning the test results and their significance to the case. This project is enthusiastically accepted and supported by the San Francisco Police Department and members of the San Francisco judicial system.

PARTIAL LIST OF LECTURES, SEMINARS AND DISCUSSIONS

Emergency Medical Services	1
Naval Regional Medical Center	5
Letterman Army Hospital	2
Trauma Society	8
American Academy of Forensic Science, St. Louis	1
California Society of Pathology-Forensic Committee	4
State Department of Health - SIDS	4
San Francisco Public Health	2
Emergency Medical Care Aommittee	9
Hastings Law School	1
California Coroner's Association	2
University of California Medical Students, Residents	4
Sexual Assault Investigation	6
U.C. Pediatrics, San Francisco General Hospital	2
National Homicide Conference	1

SOCIETIES OR COMMITTEES

American Trauma Society, California Chapter, Board of Directors
California Coroner's Association
Naval Regional Medical Center, Oakland - Consultant, Forensic Pathology
American Academy of Forensic Sciences, Fellow
National Association of Medical Examiners
California Society of Pathologists, Committee Member, Forensic Pathology
Court Testimony - 100-150/year

